Allen-Bradley

DriveTools32™

Version 2.5

Using RSLinx™ Lite
Version 2.10.118

Getting Started Manual

Important User Information

Because of the variety of uses for the products described in this publication, those responsible for the application and use of this control equipment must satisfy themselves that all necessary steps have been taken to assure that each application and use meets all performance and safety requirements, including any applicable laws, regulations, codes and standards.

The illustrations, charts, sample programs and layout examples shown in this guide are intended solely for purposes of example. Since there are many variables and requirements associated with any particular installation, Rockwell Automation does not assume responsibility or liability (to include intellectual property liability) for actual use based upon the examples shown in this publication.

Rockwell Automation publication SGI-1.1, *Safety Guidelines for the Application, Installation, and Maintenance of Solid-State Control* (available from your local Rockwell Automation office), describes some important differences between solid-state equipment and electromechanical devices that should be taken into consideration when applying products such as those described in this publication.

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Throughout this manual we use notes to make you aware of safety considerations:

ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage or economic loss.

Attention statements help you to:

- Identify a hazard.
- Avoid the hazard.
- Recognize the consequences.

Important: Identifies information that is critical for successful application and understanding of the product.

Summary of Changes

The information below summarizes the changes to the company-wide templates since the last release.

Product Changes

The following changes have been made to DriveTools32 software:

- Added ControlLogix gateway communications.
- Communications interface has changed.
- Fixed bugs and anomalies. Refer to the DriveTools32 Readme file.

Manual Changes

The following changes have been made to this manual:

- Added information on ControlLogix gateway communications.
- Removed information on RS-485 serial multi-drop communications.
- Updated instructions and screen shots to reflect the new communications dialog boxes.

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Using This Manual

Objectives

Read this preface to become familiar with the rest of the manual. In this preface, you will read about the following:

- Who should use this manual.
- The purpose of this manual.
- Terms and abbreviations.
- Safety precautions.
- Conventions used in this manual.
- Rockwell Automation support.

Who Should Use This Manual?

Use this manual if you are responsible for using the DriveTools32™ software to program, monitor, and troubleshoot Allen-Bradley AC and DC digital drive products. You should be familiar with programming and operating Allen-Bradley digital drives and have basic personal computer and Windows™ 95/98/NT operation skills, such as starting applications, navigating between applications, using menus and dialog boxes, and accessing Windows online help.

Purpose of This Manual

This manual is designed to get you started using DriveTools32 software. It begins with an overview of DriveTools32 and the communications with which it works. Then, instructions are provided for installing the software. Finally, instructions are provided for using DriveTools32 with different types of communications. For each type, you will read about the following:

- Ensuring that you have the necessary hardware set up properly.
- Configuring RSLinx Lite.
- Configuring a DriveTools32 application.
- Connecting to a drive.

After getting started, you should use the online help to become acquainted with the DriveTools32 application that you are using. Each application's online help contains detailed information and step-by-step instructions on how to use the application to configure, monitor, or control a drive.

Contents of This Manual

Chapter	Title	Contents
Preface	Using This Manual	Purpose, background, and scope of this manual.
Chapter 1	Overview	Overview of DriveTools32 software, RSLinx software, types of communications that you can use, and the steps to get started using DriveTools32.
Chapter 2	Installing and Starting DriveTools32	Instructions for installing DriveTools32 and RSLinx.
Chapter 3	Setting Up RS-232 Point-to-Point Serial Communications	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for RS-232 point-to-point serial communications.
Chapter 4	Setting up RS-232 Point-to-Point Serial Communications for a 1395 Drive	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for 1395 RS-232 point-to-point serial communications.
Chapter 5	Setting Up DH+ Direct Communications	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for DH+ direct communications.
Chapter 6	Setting Up DH+ to RIO Block Transfer Pass Thru Communications	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for DH+ to RIO Block Transfer Pass Thru communications.
Chapter 7	Setting Up ControlNet Direct Communications	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for ControlNet direct communications.
Chapter 8	Setting Up ControlNet to RIO Block Transfer Pass Thru Communications	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for ControlNet to RIO Block Transfer Pass Thru communications.
Chapter 9	Setting Up DeviceNet Direct Communications	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for DeviceNet direct communications.
Chapter 10	Setting Up Allen-Bradley Ethernet to RIO Block Transfer Pass Thru Communications	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for Allen-Bradley Ethernet to RIO Pass Thru communications.
Chapter 11	Using RSLinx Gateways	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for RSLinx gateways.
Chapter 12	Using a Modem Connection	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for modem connections.
Chapter 13	Using ControlLogix Gateways	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for ControlLogix gateways.
Chapter 14	Using ControlLogix Gateway to RIO Block Transfer Pass Thru Communications	Instructions for setting up the required hardware, configuring RSLinx, and configuring DriveTools32 for ControlLogix gateways to RIO Block Transfer Pass Thru communications.
Chapter 15	Using Online Help	Instructions for using DriveTools32 online help.
Chapter 16	Troubleshooting	Instructions for troubleshooting communications problems.
Appendix A	Products Supported by DriveTools32	A list of products with which you can use DriveTools32.

Related Documentation

Refer to the following documents:

For Help On:	Refer to:
DriveTools32 applications	Online help for the individual DriveTools32 applications. All documentation for DriveTools32 is currently in the online help. Refer to Chapter 15, *Using Online Help.*
RSLinx	Online help for RSLinx. In the RSLinx **Help** menu, select **RSLinx Help Topics** to access RSLinx online help.

Safety Precautions and Important Information

Please read the following safety precautions before using DriveTools32 software.

ATTENTION: Only people familiar with Allen-Bradley drives and the associated machinery that the drives control should plan or implement the installation, start up, and subsequent maintenance of the drive. Failure to comply may result in personal injury and/or equipment damage.

ATTENTION: Hazard of injury or death exists when starting or stopping a drive using DrivePanel32. Do not use DrivePanel32 until you have read and understood the hazards explained in your drive user manual(s).

ATTENTION: Hazard of injury or death exists. The Start/Stop/Jog functions of DrivePanel32 software rely on the integrity of software and communications between the drive and computer. A software malfunction or loss of communications may result in the inability to stop the drive using DrivePanel32. You **must** configure an adapter time-out (when prompted) and have an independent hardwired stop device within reach when using DrivePanel32 to control a drive. DrivePanel32 is not a substitute for primary operator controls that meet industry standards and local codes.

Important: If you are using multiple DriveTools32 applications, they must be the same version to ensure proper communications. For example you can use DrivePanel32 (version 2.5) and DriveManager32 (version 2.5) at the same time. However, you should not use DrivePanel32 (version 2.0) and DriveManager32 (version 2.5) at the same time.

Terms and Abbreviations

The following terms and abbreviations are specific to this product. For a complete listing of Allen-Bradley terminology, refer to the Allen-Bradley *Industrial Automation Glossary,* Publication AG-7.1.

Terms	Definition
Drive	You can use DriveTools32 with many Allen-Bradley products. These products include the 1395 drive, 1336 FORCE™ drive, A-B/Stromberg drives, 160 SSC drive, and SCANport™-compatible products (e.g., 1336 PLUS drive). For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32.*
DriveTools32	DriveTools32 software is a family of tools designed for Microsoft Windows 95, Windows 98, and Windows NT™ 4.0 operating systems. This manual provides instructions for getting started with DriveTools32 (release 2.5).
Interchange	In this manual, Interchange is a component of RSLinx.
RSLinx	RSLinx is a Rockwell Software application that provides the communications drivers that let DriveTools32 communicate with Allen-Bradley drives using a variety of networks as well as direct serial connections. This manual provides instructions for configuring RSLinx 2.10.118 so that it can be used with DriveTools32.
SCANport	A standard peripheral communications protocol for various Allen-Bradley drives and power products.
SCANport Peripheral Device	A device that provides an interface between SCANport and a network. It is often referred to as an adapter. For example, the 1203-SSS converter is a SCANport peripheral device.
SCANport-Compatible Product	An Allen-Bradley device that uses the SCANport communications interface to communicate with one or more peripheral devices. For example, a motor drive such as a 1336 PLUS is a SCANport product.

Conventions Used in This Manual

The following conventions are used throughout this manual:

- Bulleted lists provide information, not procedural steps.
- Numbered lists provide sequential steps or hierarchical information.
- *Italic* type is used for chapter names and titles of other manuals.
- **Bold** type is used for names of dialog boxes, dialog box fields, menus, menu options, and buttons.
- In this manual, DriveTools32 refers to DriveTools32 (version 2.5).
- In some names, “x” is used as a place holder. For example, 1203-Gx1 refers to both 1203-GK1 and 1203-GD1.
- In this manual, RSLinx refers to either RSLinx Lite (version 2.10.118) shipped with DriveTools32 or RSLinx (version 2.10.118).

Important: This type of paragraph contains tips or notes that have been added to call attention to useful information.

Rockwell Automation Support

Rockwell Automation offers support services worldwide, with over 75 sales/support offices, over 500 authorized distributors, over 250 authorized systems integrators located through the United States alone, and Rockwell Automation representatives in every major country in the world.

Local Product Support

Contact your local Rockwell Automation representative for:

- Sales and order support.
- Product technical training.
- Warranty support.
- Support service agreements.

Technical Product Assistance

If you need to contact Rockwell Automation for technical assistance, please review the information in this manual and the online help first. If you still have problems, then call your local Rockwell Automation representative.

Refer to http://www.ab.com/drives/drivetools32 for updates and supporting documentation.

When You Call

When you call, you should be at your computer and prepared to give the following information:

- Product serial number and version number.

  The product serial number and version number can be found in the software by selecting **Help > About [DriveTools32 Program]**.

- Hardware you are using.
- Exact wording of any errors or messages that appeared on your screen.
- Description of what happened and what you were doing when the problem occurred.
- Description of how you attempted to solve the problem.

Feedback

To report errors or let us know what information you would like to see added in future additions of this manual, please send an email message to support@drives.ra.rockwell.com.

Notes:

Overview

Chapter Objectives

Chapter 1 provides an overview of the DriveTools32 software package. In this chapter, you will read about the following:

- DriveTools32 software suite.
- RSLinx software.
- Types of communications with which DriveTools32 is used.
- Hardware required for each type of communications system.

What Is DriveTools32?

The DriveTools32 software suite is a family of tools designed for Microsoft Windows 95, Windows 98, and Windows NT 4.0 (and greater) operating systems. With the DriveTools32 applications, you can program, troubleshoot, and maintain many Allen-Bradley AC and DC drives and products (refer to Appendix A for a list). You initiate all changes to a drive.

The full DriveTools32 suite comprises the following software products:

Product:	Lets you:
DriveManager32™	Create and edit the data tables that are used to configure the drive for your application. DriveManager32 also provides several methods of displaying drive diagnostic information.
DriveMonitor32™	Graphically monitor drive and/or PLC controller data points. You can display live data values in a graphic format. **Important:** You cannot access a drive via RIO Block Transfer Pass Thru or 1395 serial communications when using DriveMonitor32.
DrivePanel32™	Use the programming and control functions available with a Human Interface Module (HIM) from your computer.
	 ATTENTION: Hazard of injury or death exists. The Start/Stop/Jog functions of DrivePanel32 software rely on the integrity of software and communications between the drive and computer. A software malfunction or loss of communications may result in the inability to stop the drive using DrivePanel32. You **must** configure an adapter time-out (when prompted) and have an independent hardwired stop device within reach when using DrivePanel32 to control a drive. DrivePanel32 is not a substitute for primary operator controls that meet industry standards and local codes.

Product:	Lets you:
DriveTrending32™	Program and monitor the internal drive trending functions that are supported by some drives (i.e., 1336 FORCE drives, 1395 DC drives, and 2364F Regenerative DC Bus Supply units).
DriveBlockEditor32™	Create and monitor function block programs that run internally in 1336 FORCE drives.

What Is RSLinx?

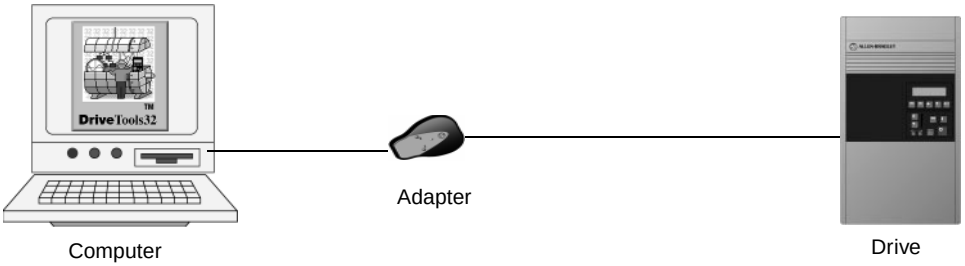
RSLinx provides the communications drivers that enable DriveTools32 to communicate with Allen-Bradley drives and products using a variety of networks as well as direct serial connections.

Before you can start DriveTools32 applications, you must either load RSLinx Lite (version 2.10.118), which is shipped with DriveTools32, or you must already have RSLinx 2.10.118 running and properly configured on your computer. Later versions of RSLinx can also be used.

Types of Communications

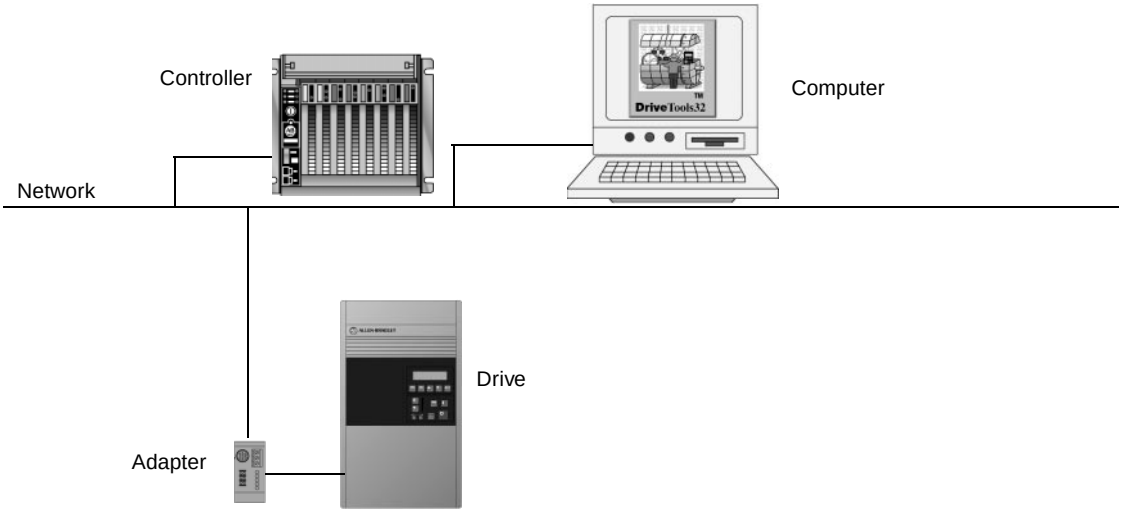
When you use DriveTools32 and RSLinx, you can connect to and communicate with a drive using a variety of communications. For example, you can communicate with a drive using a direct serial connection (Refer to Figure 1.1).

Figure 1.1
Direct Serial Connection



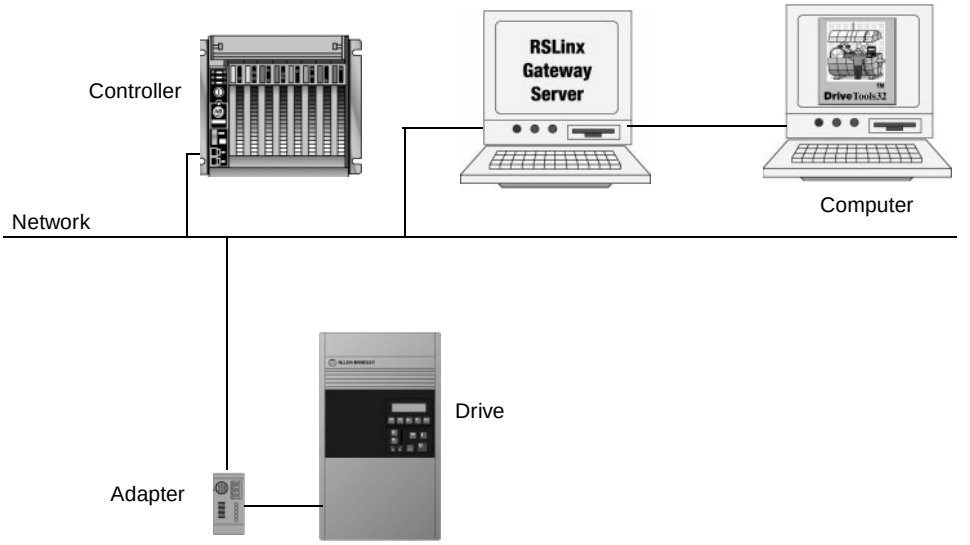
You can also communicate with a drive or controller using a network connection (Refer to Figure 1.2).

Figure 1.2
Network Connection



A third option lets you communicate with a drive or controller using a remote connection such as a gateway (Refer to Figure 1.3).

Figure 1.3
Remote Connection



You can use DriveTools32 with any of the following types of communications:

This Type of Communications:	Refer To:
RS-232 Point-to-Point Serial Communications for a SCANport-Compatible Product	Chapter 3
RS-232 Point-to-Point Serial Communications for a 1395 Drive	Chapter 4
DH+™ Direct Communications	Chapter 5
DH+ to RIO Block Transfer Pass Thru Communications	Chapter 6
ControlNet™ Direct Communications	Chapter 7
ControlNet to RIO Block Transfer Pass Thru Communications	Chapter 8
DeviceNet™ Direct Communications	Chapter 9
Allen-Bradley Ethernet™ to RIO Block Transfer Pass Thru Communications	Chapter 10
RSLinx Gateways	Chapter 11
Modem Connection	Chapter 12
ControlLogix Gateways	Chapter 13
ControlLogix Gateways to RIO Block Transfer Pass Thru Communications	Chapter 14

Required Hardware

Because DriveTools32 works with many types of communications, the hardware you need depends on the type of drive that you want to access and the type of communications that you are using. Refer to the following table:

Drive	Refer To:
SCANport-Compatible (e.g., 1336 PLUS drives or SMP)	“Using DriveTools32 with an Allen-Bradley SCANport-Compatible Product” on page 1-5
1336 FORCE	“Using DriveTools32 with a 1336 FORCE Drive” on page 1-6
1395	“Using DriveTools32 with a 1395 Drive” on page 1-7
A-B/Stromberg	“Using DriveTools32 with an A-B/Stromberg Drive” on page 1-8
160	“Using DriveTools32 with a 160 Drive” on page 1-8

Using DriveTools32 with an Allen-Bradley SCANport-Compatible Product

You can use DriveTools32 with many Allen-Bradley SCANport-compatible products. For a list of Allen-Bradley SCANport products, refer to Appendix A, *Products Supported by DriveTools32*. If you use DriveTools32 with one of these products, you have the following options:

Communications	Required Drive Hardware	Required Computer Hardware	Refer To:
RS-232 Point-to-Point Serial	Serial Adapter (1203-SSS, 1203-GD2, 1203-GK2, or 1336-GM2) & appropriate cable(s)	RS-232 port	Chapter 3
DH+ to RIO Block Transfer Pass Thru (PLC or SLC)	Remote I/O Adapter (1203-GD1, 1203-GK1, or 1336-GM1) & appropriate cable(s)	1784-KT, -KTX, -KTXD, or -PCMK	Chapter 6
RS-232 to ControlNet Direct	ControlNet Adapter (1203-CN1) & appropriate cables	1770-KFC & RS-232 port	Chapter 7
ControlNet Direct	ControlNet Adapter (1203-CN1) & appropriate cables	1784-KTC, -KTCX, or -PCC	Chapter 7
RS-232 to ControlNet to RIO Block Transfer Pass Thru (PLC)	Remote I/O Adapter (1203-GD1, 1203-GK1, or 1336-GM1) & appropriate cable(s)	1770-KFC & RS-232 port	Chapter 8
ControlNet to RIO Block Transfer Pass Thru (PLC)	Remote I/O Adapter (1203-GD1, 1203-GK1, or 1336-GM1) & appropriate cable(s)	1784-KTC, -KTCX, or -PCC	Chapter 8
RS-232 to DeviceNet Direct	DeviceNet Adapter (1203-GK5, 1203-GU6, 1336-GM5, or 1336-GM6) & appropriate cable(s)	1770-KFD & RS-232 port	Chapter 9
DeviceNet Direct	DeviceNet Adapter (1203-GK5, 1203-GU6, 1336-GM5, or 1336-GM6) & appropriate cable(s)	1784-PCD or -PCIDS	Chapter 9
Ethernet to RIO Block Transfer Pass Thru	Remote I/O Adapter (1203-GD1, 1203-GK1, or 1336-GM1) & appropriate cable(s)	Ethernet Interface Running TCP/IP	Chapter 10
RSLinx Gateway Server: Ethernet to DH+ to RIO Block Transfer Pass Thru	Remote I/O Adapter (1203-GD1, 1203-GK1 or 1336-GM1) & appropriate cable(s)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK	Chapter 11
RSLinx Gateway Server: Ethernet to ControlNet Direct	ControlNet Adapter (1203-CN1) & appropriate cables	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KTC, -KTCX, or -PCC	Chapter 11
RSLinx Gateway Server: Ethernet to RS-232 Point-to-Point Serial	Serial Adapter(1203-SSS, 1203-GD2, 1203-GK2, or 1336-GM2) & appropriate cable(s)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and RS-232 port	Chapter 11
Modem (Serial)	Serial Adapter (1203-SSS, 1203-GD2, 1203-GK2, or 1336-GM2), appropriate cable(s), null modem converter, and modem	RS-232 port and modem	Chapter 12
ControlLogix	Equipment depends on network to which the drive is connected.	Equipment depends on network to which the computer is connected.	Chapter 13
ControlLogix to RIO Block Transfer Pass Thru	Remote I/O Adapter (1203-GD1, 1203-GK1 or 1336-GM1) & appropriate cable(s)	Equipment depends on network to which the computer is connected.	Chapter 14

Using DriveTools32 with a 1336 FORCE Drive

The 1336 FORCE drives are SCANport-compatible products and offer all of the options available to SCANport-compatible products (refer to page 1-5). In addition, 1336 FORCE drives offer the following options:

Communications	Required Drive Hardware	Required Computer Hardware	Refer To:
RS-232 Serial to DH+ Direct	PLC Communications Adapter Board (1336T-GT1EN)	RS-232 port and 1770-KF2	Chapter 5
DH+ Direct	PLC Communications Adapter Board (1336T-GT1EN)	1784-KT, -KTX, -KTXD, or -PCMK	Chapter 5
DH+ to RIO Block Transfer Pass Thru	PLC Communications Adapter Board (1336T-GT1EN)	1784-KT, -KTX, -KTXD, or -PCMK	Chapter 6
RS-232 to ControlNet Direct	ControlNet Adapter Board (1336T-GT3EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	1770-KFC & RS-232 port	Chapter 7
ControlNet Direct	ControlNet Adapter Board (1336T-GT3EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	1784-KTC, -KTCX, or -PCC	Chapter 7
RS-232 to ControlNet to RIO Block Transfer Pass Thru (PLC)	PLC Communications Adapter Board (1336T-GT1EN)	1770-KFC & RS-232 port	Chapter 8
ControlNet to RIO Block Transfer Pass Thru (PLC)	PLC Communications Adapter Board (1336T-GT1EN)	1784-KTC, -KTCX, or -PCC	Chapter 8
Ethernet to RIO Block Transfer Pass Thru	PLC Communications Adapter Board (1336T-GT1EN)	Ethernet Interface Running TCP/IP	Chapter 10
RSLinx Gateway Server: Ethernet to DH+ Direct	PLC Communications Adapter Board (1336T-GT1EN)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK	Chapter 11
RSLinx Gateway Server: Ethernet to DH+ to RIO Block Transfer Pass Thru	PLC Communications Adapter Board (1336T-GT1EN)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK	Chapter 11
RSLinx Gateway Server: Ethernet to ControlNet Direct	ControlNet Adapter Board (1336T-GT3EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KTC, -KTCX, or -PCC	Chapter 11
ControlLogix	Equipment depends on network to which the drive is connected.	Equipment depends on network to which the computer is connected.	Chapter 13
ControlLogix to RIO Block Transfer Pass Thru	PLC Communications Adapter Board (1336T-GT1EN)	Equipment depends on network to which the computer is connected.	Chapter 14

Using DriveTools32 with a 1395 Drive

With the 1395 drive, you have the following options:

Communications	Required Drive Hardware	Required Computer Hardware	Refer To:
RS-232 Point-to-Point Serial	1300-ITSSC	RS-232 port	Chapter 4
RS-232 Serial to DH+ Direct	Multi-Communications Adapter Board (1395-KP51)	RS-232 port and 1770-KF2	Chapter 5
DH+ Direct	Multi-Communications Adapter Board (1935-KP51)	1784-KT, -KTX, -KTXD, or -PCMK	Chapter 5
DH+ to RIO Block Transfer Pass Thru	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	1784-KT, -KTX, -KTXD, or -PCMK	Chapter 6
RS-232 to ControlNet Direct	ControlNet Adapter Board (1395-KP54EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	1770-KFC & RS-232 port	Chapter 7
ControlNet Direct	ControlNet Adapter Board (1395-KP54EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	1784-KTC, -KTCX, or -PCC	Chapter 7
RS-232 to ControlNet to RIO Block Transfer Pass Thru (PLC)	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	1770-KFC & RS-232 port	Chapter 8
ControlNet to RIO Block Transfer Pass Thru (PLC)	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	1784-KTC, -KTCX, or -PCC	Chapter 8
Ethernet to RIO Block Transfer Pass Thru	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	Ethernet Interface Running TCP/IP	Chapter 10
RSLinx Gateway Server: Ethernet to DH+ Direct	Multi-Communications Adapter (1395-KP51)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK	Chapter 11
RSLinx Gateway Server: Ethernet to DH+ to RIO Block Transfer Pass Thru	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK	Chapter 11
RSLinx Gateway Server: Ethernet to ControlNet Direct	ControlNet Adapter Board (1395-KP54EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KTC, -KTCX, or -PCC	Chapter 11
ControlLogix	Equipment depends on network to which the drive is connected.	Equipment depends on network to which the computer is connected.	Chapter 13
ControlLogix to RIO Block Transfer Pass Thru	Multi-Communications Adapter (1395-KP51)	Equipment depends on network to which the computer is connected.	Chapter 14

Using DriveTools32 with an A-B/Stromberg Drive

With a 1352, 1352 C, 1352 C Plus, 3400 DC, or 3502 LGU Stromberg drive, you have the following options:

Communications	Required Drive Hardware	Required Computer Hardware	Refer To:
RS-232 Serial to DH+ Direct	3500-TBX card (147096 or 157676)	RS-232 port and 1770-KF2	Chapter 5
DH+ Direct	3500-TBX card (147096 or 157676)	1784 -KT, -KTX, KTXD, or -PCMK	Chapter 5
RSLinx Gateway Server: Ethernet to DH+ Direct	3500-TBX card (147096 or 157676)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK	Chapter 11

Using DriveTools32 with a 160 Drive

With a 160 drive, you have the following option:

Communications	Required Drive Hardware	Required Computer Hardware	Refer To:
RS-232 Point-to-Point Serial	160-RS1 Communications Adapter and appropriate cables	RS-232 port	Chapter 3
Modem	160-RS1 Communications Adapter, appropriate cables, null modem converter, and modem	RS-232 port and modem	Chapter 12

Getting Started with DriveTools32

To use DriveTools32 to monitor, configure, or control a drive, you need to:

1. Install DriveTools32 and RSLinx. Refer to Chapter 2, *Installing and Starting DriveTools32*.
2. Verify that you are using the correct hardware and settings for your type of communications.①
3. Configure RSLinx for your type of communications.①
4. Configure the DriveTools32 application for your type of communications.①
5. Connect to a drive.①

① Determine the type of communications that you will be using, and then refer to the appropriate chapter. Chapter 3 through Chapter 14 provide instructions for setting up hardware, configuring RSLinx and DriveTools32, and connecting to a drive for each type of communications.

Installing and Starting DriveTools32

Chapter Objectives

Chapter 2 provides instructions for installing DriveTools32 and RSLinx. In this chapter, you will read about the following:

- System Requirements.
- Installing DriveTools32 and RSLinx.
- Starting RSLinx and DriveTools32 applications.
- Creating databases in DriveTools32.

System Requirements

DriveTools32 runs on the Microsoft Windows 95, Windows 98, or Windows NT (4.0 or greater) operating systems.

Windows 95 and Windows 98 System Requirements

- Personal computer using 486 66 MHz processor or better with at least 16 MB (MegaBytes) of RAM and 50 MB or hard drive space.
- VGA Monitor capable of 640 x 480 resolution or better.
- CD-ROM drive.
- Mouse or other Windows 95/98 compatible pointing device.

Windows NT System Requirements

- Personal computer using at least 100MHz Pentium® class processor with at least 32 MB (MegaBytes) of RAM and 50 MB of hard drive space.
- VGA Monitor capable of 800 x 600 resolution or better.
- CD-ROM drive.
- Mouse or other Windows NT compatible pointing device.

Installing DriveTools32

You can install DriveTools32 on a computer running Windows 95, Windows 98, or Windows NT.

Important: To install DriveTools32 on a computer running Windows NT, you must have administrator privileges on the computer.

Important: If you are upgrading DriveTools32, uninstall the old version before installing the new version.

ATTENTION: Hazard of equipment damage exists. Installing DriveTools32 may overwrite existing DriveTools32 database files. Ensure that needed database files are saved in a safe location to avoid losing them when you install DriveTools32.

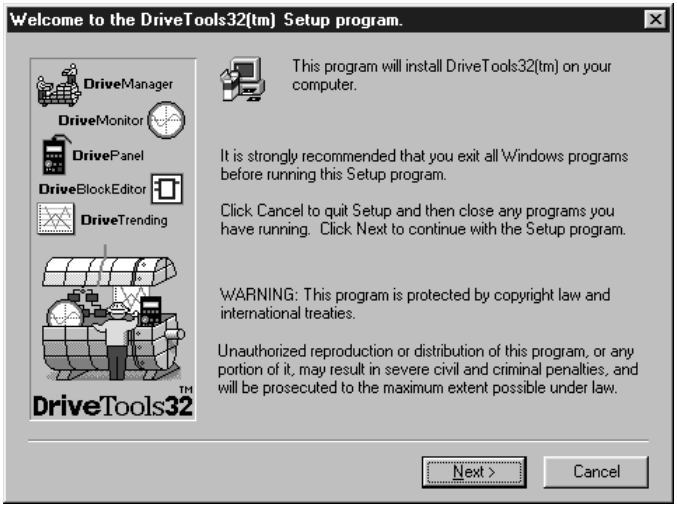
To install DriveTools32, you need to:

1. If necessary, uninstall old versions of DriveTools32 from the computer.

Important: If you are upgrading DriveTools32, it is recommended that you install DriveTools32 in the same location as the old program. This preserves the mapping between existing databases and the DriveTools32 applications.

2. Exit all Windows programs.

3. Insert the DriveTools32 CD in the CD-ROM drive. The install wizard starts.


Welcome to the DriveTools32(tm) Setup program.
DriveManager
DriveMonitor
DrivePanel
DriveBlockEditor
DriveTrending
DriveTools32
This program will install DriveTools32(tm) on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

4. Follow the instructions in the Install wizard.

Important: The serial number for registration is on the DriveTools32 box.

Important: Selecting a security system is a one time decision. DriveTools32 must be re-installed to activate or deactivate the security system. During a reinstallation, data may be lost.

Installing RSLinx

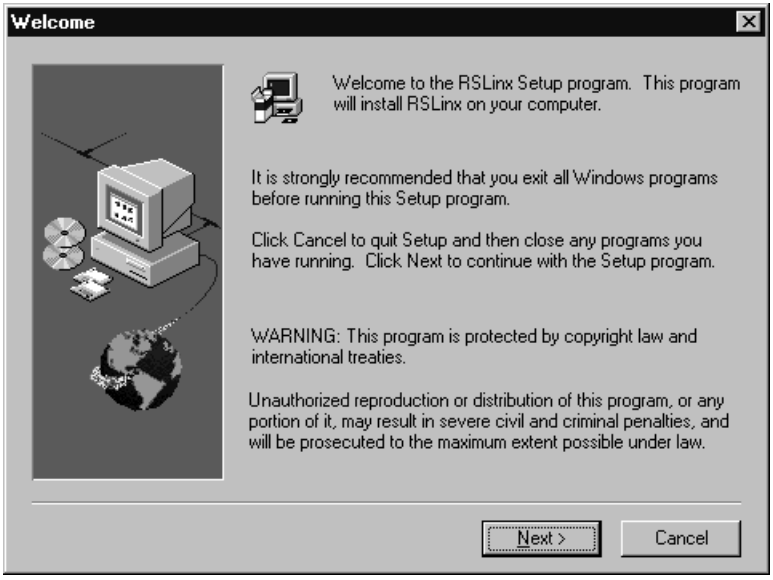
You must have version 2.10.118 (or greater) of RSLinx or RSLinx Lite installed and properly configured before you can use DriveTools32 to communicate with a drive. It is recommended that you also install RSLinx Service Pack 1 to update RSLinx to version 2.10.167. When you finish installing DriveTools32, you are prompted to install RSLinx Lite and the necessary service packs.

Information
DriveTools32(tm) REQUIRES Version 2.10.118.0 or greater of RSLinx(tm) in order to run and/or communicate to drive products. Please read the Getting Started Manual for special instructions on configuring RSLinx(tm) to work with DriveTools32(tm). Older versions of RSLinx(tm) are NOT compatible with this version of DriveTools32(tm). In addition, it is recommended that RSLinx V2.1 Service Pack 1 be installed. RSLinx Service Pack 1 can be installed by executing 'X:\DriveTools32\Er20105\RSLinx\V2.1_SP1\setup.exe' located on this CD.
DriveTools32(tm) installation is complete.
Please read the Getting Started Manual for special instructions on configuring RSLinx(tm) to work with DriveTools32(tm).
OK

Important: If you already have RSLinx (version 2.10.118) installed on the computer, do not install the RSLinx that is shipped with DriveTools32. Click **No**.

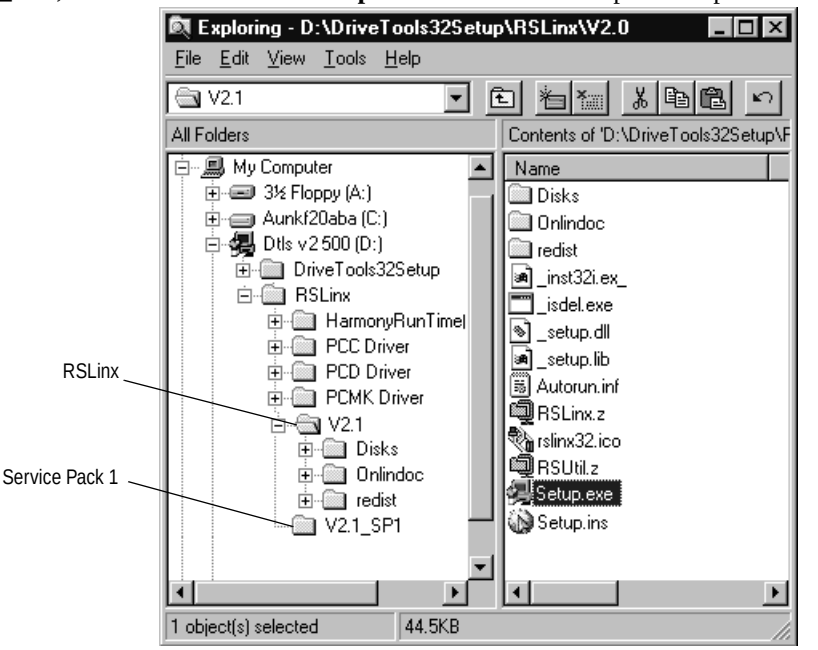
If you need to install RSLinx, follow these directions:

1. Click **Yes** to display the RSLinx Install wizard.


Welcome
Welcome to the RSLinx Setup program. This program will install RSLinx on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

2. Follow the instructions in the Install wizard.

Important: If the RSLinx Install wizard does not appear automatically, you can start it using Windows Explorer. Start Windows Explorer, click your CD-ROM drive, **RSLinx**, and **V2.1**, and then double-click **Setup.exe** to run the RSLinx Lite setup. Start Windows Explorer, click your CD-ROM drive, **RSLinx**, and **V2.1_SP1**, and then double-click **Setup.exe** to run the service pack setup.



Starting DriveTools32 Applications and RSLinx

The first time that you use DriveTools32, you must start RSLinx before you start the DriveTools32 application. To start RSLinx in Windows, click **Start**, **Programs**, **Rockwell Software**, **RSLinx**, and then **RSLinx**.

To start a DriveTools32 application, click **Start**, **Programs**, **DriveTools32** and then the DriveTools32 application (e.g., **DriveManager32**).

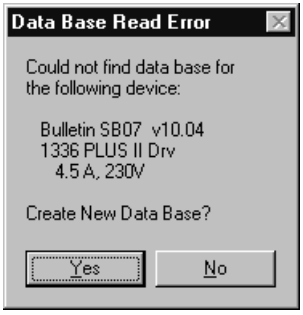
Important: If you have enabled the security system, the default user name is **ADMIN**, and the default password is **PASS**. The default administrator keyword is **KEY**. For instructions on changing user names and passwords, refer to the DriveManager32 online help.

Important: When you start a DriveTools32 application, RSLinx automatically starts with it. If you reconfigure a driver, you must close the DriveTools32 application and then restart it.

DriveTools32 and Database Files

DriveTools32 uses a unique database file for each drive so that you can configure each drive individually. DriveTools32 ships with many of the database files that it will need (refer to Appendix A, *Products Supported by DriveTools32*).

If a drive does not have a database file in DriveTools32, you will be prompted to download a database file when you try to connect to it in a DriveTools32 application.



Important: By default, DriveTools32 downloads database files into its program folder. You can change the folder to which database files are downloaded by selecting **Set Data Base Path** in the DriveTools32 application's **Options** menu. You must specify a path and then select **Use Alternate Data Base Directory**.

1. If the **Data Base Read Error** dialog box appears, click **Yes**. DriveTools32 uploads a database file. The following prompt appears to inform you that the download is complete.

2. Click **OK**.

Notes:

Setting Up RS-232 Point-to-Point Serial Communications

Chapter Objectives

Chapter 3 provides instructions for using DriveTools32 with RS-232 point-to-point serial communications to a SCANport-compatible product. In this chapter, you will read about the following:

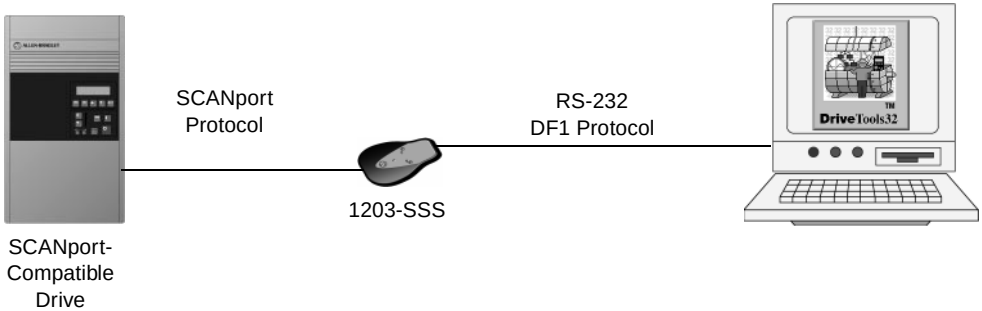
- Required equipment and settings.
- Configuring RSLinx for RS-232 point-to-point serial communications.
- Configuring a DriveTools32 application for RS-232 point-to-point serial communications.
- Connecting to a drive.

Important: For this type of configuration, you must connect to a SCANport-compatible product. For information on a 1395 drive, refer to Chapter 4, *Setting up RS-232 Point-to-Point Serial Communications for a 1395 Drive*.

About RS-232 Point-to-Point Serial Communications

Using RS-232 point-to-point serial communications, you can establish a direct serial connection between a computer and a drive. Figure 3.1 shows an example:

Figure 3.1
RS-232 Point-to-Point Serial Communications for a SCANport-Compatible Product



Important: Some DriveTools32 applications may require communication capacities greater than an RS-232 connection can provide. Communication faults may occur when you use a serial connection with these applications.

Hardware

Required Hardware

The following hardware is required for an RS-232 serial connection:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport-Compatible①	Serial Adapter(1203-SSS, 1203-GD2, 1203-GK2, or 1336-GM2) and appropriate cable(s)	RS-232 port
160 SSC	160-RS1 Serial Adapter and appropriate cable	RS-232 port

① For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Use a standard straight-thru serial cable to connect your computer to the adapter.
- Ensure that your serial communications module settings are correct. In most cases, you should use the factory-set defaults. If you decide to change the default settings, note the new settings because you need to know them when you configure RSLinx and DriveTools32. Refer to the appropriate manual:

Communications Module	Refer To:
1203-GD2, 1203-GK2, or 1336 GM2	*Bulletin 1203 Serial Communications Module User Manual*
1203-SSS	*Smart Self-powered Serial Converter User Manual*

Important: If you are using a 1203-GD2 serial communications module, its firmware must be release 2.04 or greater. If you use an earlier version, all parameters may not be shown.

Configuring RSLinx

The following instructions describe how to configure for RS-232 serial communications. If you have questions about RSLinx, refer to its online help.

To use RSLinx for an RS-232 serial communications, you need to:

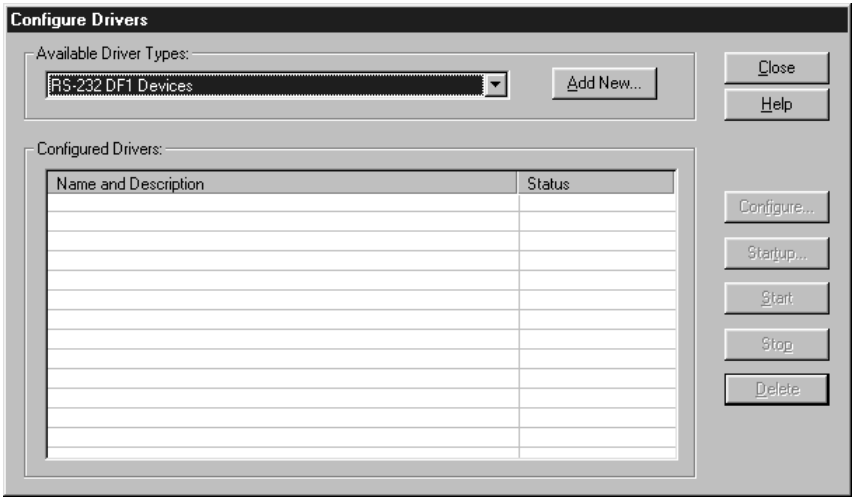
- Configure the communications driver.
- Map the configured driver to a KTPort Value.

Important: Before configuring the communications driver, make sure that your computer communications port is correctly configured (e.g., baud rate). You can configure the communications port in the Windows Control Panel.

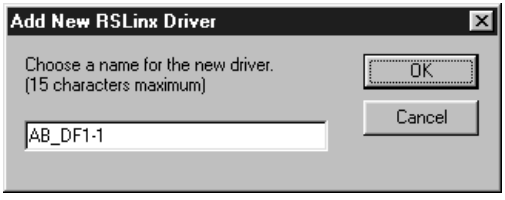
Configuring the Communications Driver

A driver is the software interface to the hardware device that allows RSLinx to communicate with your drive. To configure the driver, you need to:

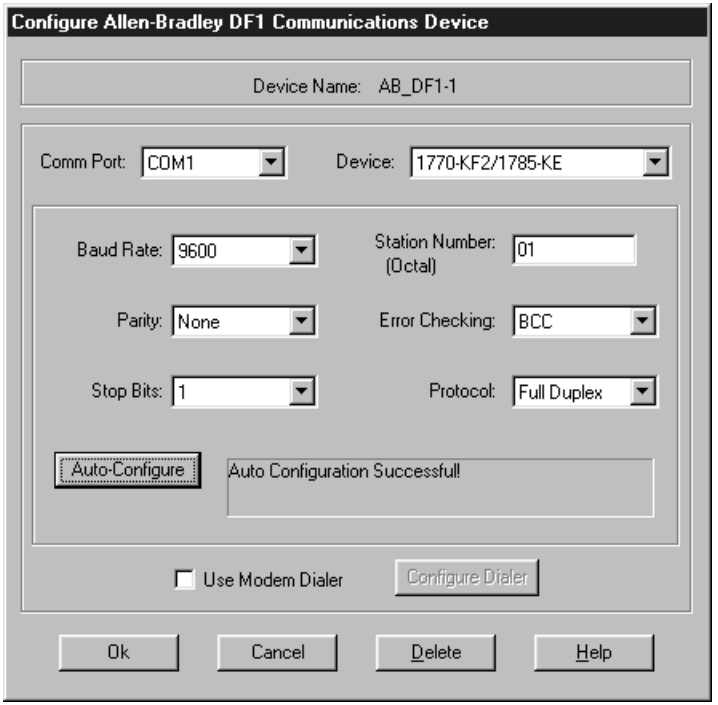
1. Start RSLinx.
2. In the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.



3. In the **Available Driver Types** field, select **RS-232 DF1 Devices**.
4. Click **Add New**. The **Add New RSLinx Driver** dialog box appears.



5. Click **OK** to accept the default name. The **Configure Allen-Bradley DF1 Communications Device** dialog box appears.



6. In the **Comm Port** field, select the communications port that you computer is using.

Important: Note the communications port and baud rate that you use. When you configure a DriveTools32 application, you need to enter this information in the **Communication Setup** dialog box.

7. In the **Device** field, select **1770-KF2/1785-KE**. If you are using RS-232 serial to ControlNet communications, select KFC 1.5.

8. In the **Station Number** field, type the station number for your communications module.

9. Click **Auto-Configure** to have RSLinx configure your driver automatically. If the auto-configure was successful, a message box is displayed to inform you that RSLinx failed to identify the device. If it was unsuccessful, RSLinx displays why it failed next to the Auto-Configure button.

10. Click **OK** to acknowledge the message. “Auto-Configuration Successful” appears next to the Auto-Configure button.

11. In the **Station Number** field, type a new, unique number. This number will be the station number of the computer. The adapter and drive use the station number that was set for the auto-configure.

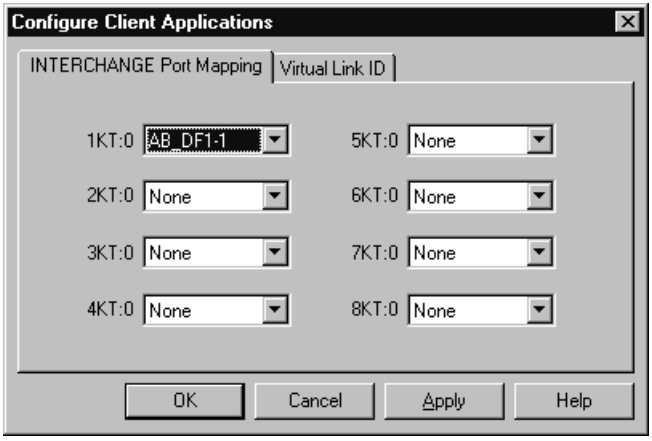
12. Click **OK** to save the configuration. The new driver appears in the **Configure Drivers** dialog box.

13. Click **Close**.

Mapping the Configured Driver to the KTPort Value

After configuring the driver, you must map it to a legacy INTERCHANGE API xKT:0 label in RSLinx so that DriveTools32 can use it.

1. In the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. In an unused **KT:0** field, select the DF1 device.

Important: Note the KT:0 field that you select. When you configure a DriveTools32 application, you need to enter the field number in the **Communication Setup** dialog box.

3. Click **OK** to map the driver to the KT:0 value.

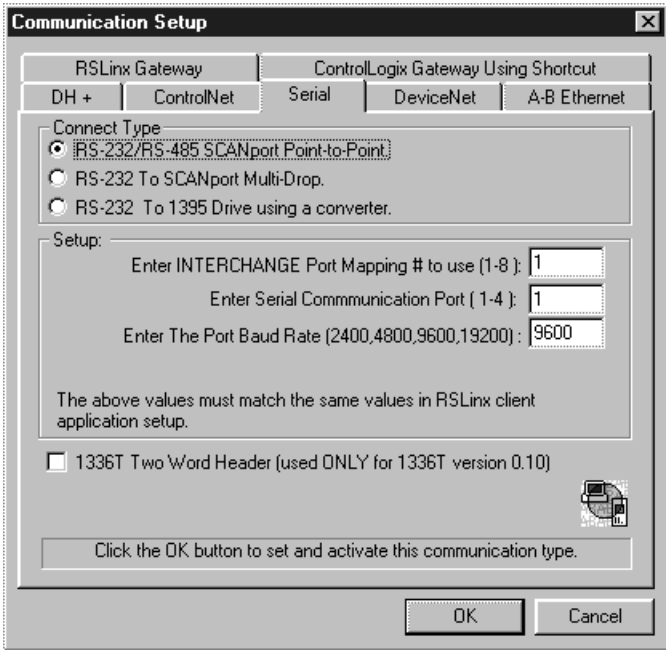
Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application.

Important: DriveTools32 can support only one type of serial connection at a communications port at a time. If you have previously configured a serial connection to a 1395 drive, click **Delete** in the **Communications Setup** dialog box to delete that configuration. You must then restart the DriveTools32 application.

To configure the DriveTools32 application, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
RS-232/RS-485 SCANport Point-to-Point
RS-232 To SCANport Multi-Drop.
RS-232 To 1395 Drive using a converter.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8): 1
Enter Serial Commmunication Port (1-4): 1
Enter The Port Baud Rate (2400,4800,9600,19200) : 9600
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header (used ONLY for 1336T version 0.10)
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **Serial** tab.
4. Under **Connect Type**, select **RS-232/RS-485 SCANport Point-to-Point**.
5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the DF1 driver in the RSLinx **Configure Client Applications** dialog box.

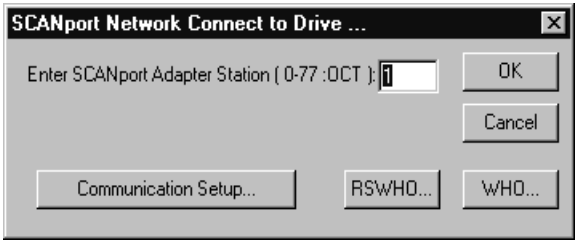
Important: To view the KT port number used by the DF1 driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. In the **Enter Serial Communication Port** field, type the communications port number that your computer is using. You must use the same communications port for which RSLinx is configured.
7. In the **Enter The Port Baud Rate** field, type the baud rate that your communications module and port are using.
8. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
9. Click **OK**.

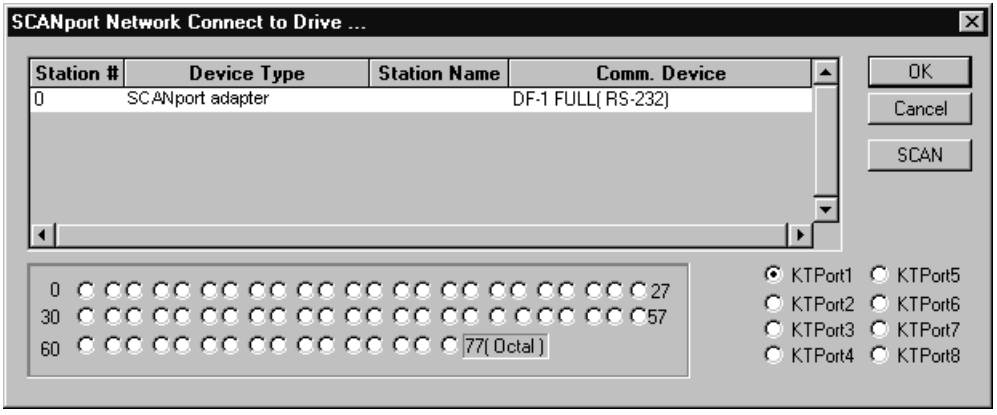
Connecting to the Drive

After configuring RSLinx and the DriveTools32 application, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **SCANport Network Connect to Drive** dialog box appears.



2. Click **WHO**. The **SCANport Network Connect to Drive WHO** dialog box appears.



3. Double-click the station to which you want to connect.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Notes:

Setting up RS-232 Point-to-Point Serial Communications for a 1395 Drive

Chapter Objectives

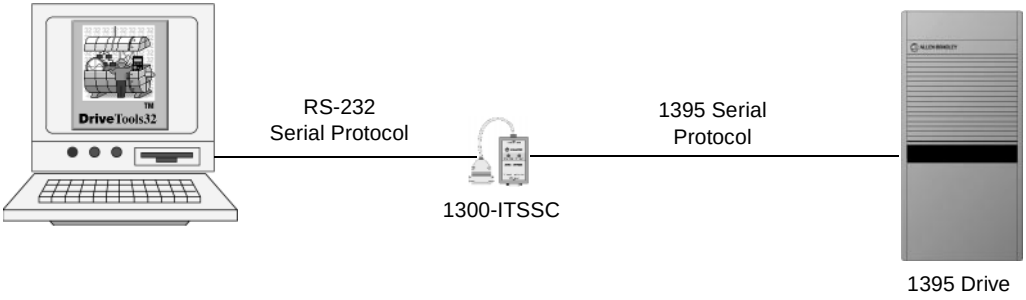
Chapter 4 provides instructions for using DriveTools32 with RS-232 point-to-point serial communications for a 1395 drive. In this chapter, you will read about the following:

- Required equipment and settings.
- Disabling RSLinx if it is using the communications port of the computer.
- Configuring a DriveTools32 application for a serial connection to a 1395 drive.
- Connecting to a drive.

About RS-232 Point-to-Point Serial Communications for a 1395 Drive

With RS-232 point-to-point serial communications for a 1395 drive, you establish a direct serial connection between a computer and a 1395 drive. Figure 4.1 shows an example:

Figure 4.1
1395 RS-232 Point-to-Point Serial Communications



Important: You can use on DriveManager32 and DriveTrending32 with 1395 serial communications.

Hardware

Required Hardware

The following hardware is required for 1395 serial communications:

Drive	Required Drive Hardware	Required Computer Hardware
1395	1300-ITSSC	RS-232 port

Setting Up the Hardware

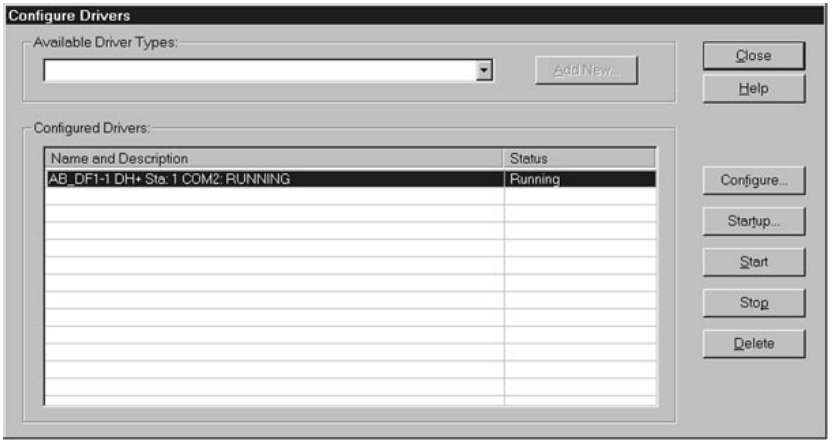
To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.

Disabling RSLinx

The following instructions describe how to disable RSLinx so that DriveTools32 can use the serial communications port for a 1395 connection. If you have questions about RSLinx, refer to its online help. To disable it, follow these instructions:

1. Start RSLinx.
2. In the **Communications** menu, select **Configure drivers**. The **Configure Drivers** dialog box appears.



3. If a configured driver using the communications port is running, click it in the **Configured Drivers** list.
4. Click **Delete**. The driver is removed from the **Configured Drivers** list.
5. Click **Close**.

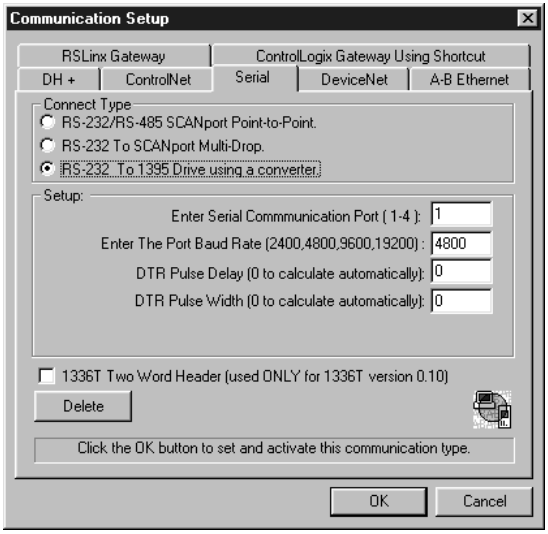
Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application.

Important: DriveTools32 can support only one type of serial connection at a communications port at a time. If you have previously configured a serial connection to a SCANport-compatible drive, click **Delete** in the **Communications Setup** dialog box to delete that configuration. You must then restart the application.

To configure a DriveTools32 application, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.



3. Click the **Serial** tab.
4. Under **Connect Type**, select **RS-232 To 1395 Drive using a converter**.
5. In the **Enter Serial Communication Port** field, type the serial communications port number that is being used on your computer.
6. In the **Enter The Port Baud Rate** field, type the baud rate that your communications port and 1300-ITSSC communications module are using. You can choose either 2400 or 4800 baud.
7. In the **DTR Pulse Delay (0 to calculate automatically)** field, type **0**.

Important: If the transmission of your computer is too fast for the 1300-ITSSC adapter, you will have to increase the value for DTR Pulse Delay. Start at 4000 and increase the value by increments of 1000 until communications work.

8. In the **DTR Pulse Width (0 to calculate automatically)** field, type **0**.

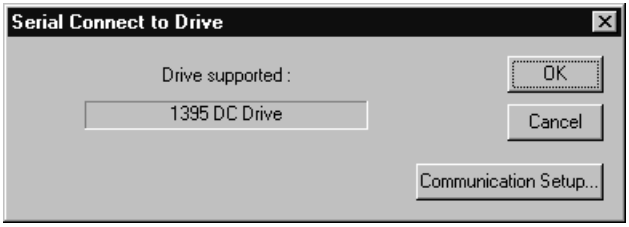
Important: If the transmission of your computer is too fast for the 1300-ITSSC adapter, you will have to increase the value for DTR Pulse Width. Start at 500 and increase the value by increments of 100 until communications work.

9. Click **OK**.

Connecting to the Drive

After disabling RSLinx and configuring the DriveTools32 application, you are ready to connect to the drive.

1. In the **Drive** menu, select **Connect to Drive**. The **Serial Connect to Drive** dialog box appears.



2. Click **OK**.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, make sure that you are using either DriveManager32 or DriveTrending32. Other applications will not work with this type of communications system. Also, try adjusting the settings as indicated in step 7 and step 8. If you are still not able to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Setting Up DH+ Direct Communications

Chapter Objectives

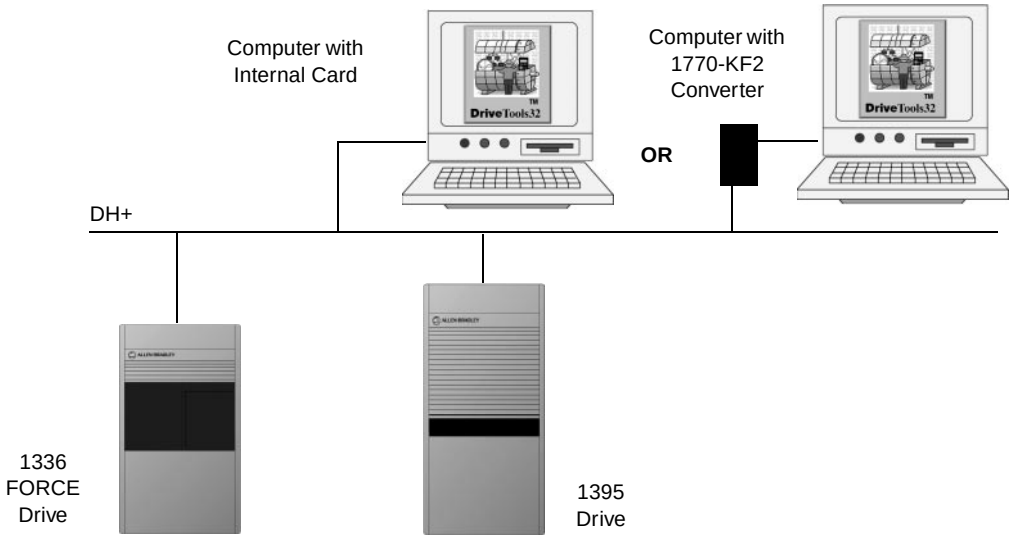
Chapter 5 provides instructions for using DriveTools32 with DH+ direct communications. In this chapter, you will read about the following:

- Required equipment and settings.
- Configuring RSLinx for DH+ direct communications.
- Configuring a DriveTools32 application for DH+ direct communications.
- Connecting to a drive.

About DH+ Direct Communications

With DH+ (Data Highway Plus) communications, you can communicate directly with drives that are connected to a DH+ network. To access a DH+ network, your computer needs either an internal interface card or an external converter. Figure 5.1 shows an example:

Figure 5.1
DH+ Direct Network



How you set up the hardware and configure RSLinx and DriveTools32 for DH+ direct communications depends on whether you are using an internal interface card or external converter.

Using:	Communications	Refer To:
Internal Interface Card (1784-KT, -KTX, -KTXD, or -PCMK)	DH+ Direct	"Using DH+ Direct Communications" on page 5-2
External Converter (1770-KF2)	RS-232 Serial to DH+ Direct	"Using RS-232 to DH+ Communications" on page 5-8

Using DH+ Direct Communications

DH+ direct communications use an internal interface card (1784-KT, -KTX, -KTXD, or -PCMK) in your computer.

Important: If you are using an external converter, refer to "Using RS-232 to DH+ Communications" on page 5-8.

Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Required Drive Hardware	Required Computer Hardware
1336 FORCE	PLC Communications Adapter Board (1336-GT1EN)	1784 -KT, -KTX, -KTXD, or -PCMK
1395	Multi-Communications Adapter Board (1395-KP51)	1784 -KT, -KTX, -KTXD, or -PCMK
A-B/ Stromberg	3500-TBX card (147096 or 157676)	1784-KT, -KTX, -KTXD, or -PCMK

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.

Configuring RSLinx

The following instructions describe how to configure RSLinx for DH+ direct communications. If you have questions about RSLinx, refer to its help.

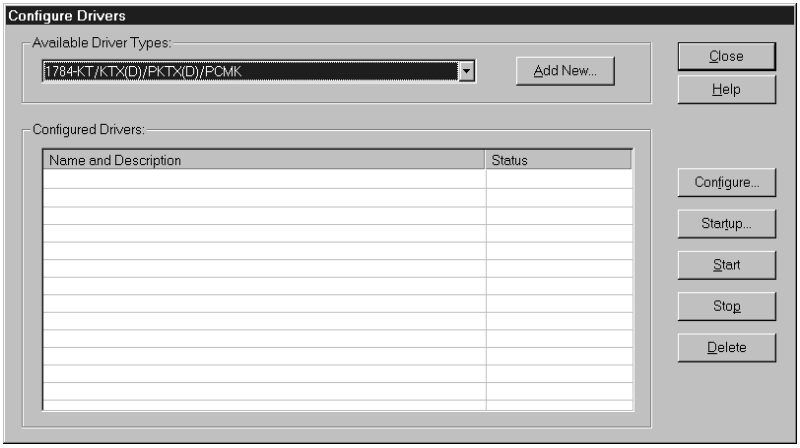
To use RSLinx for DH+ direct communications, you need to:

- Configure the communications driver.
- Map the configured driver to the KTPort Value.

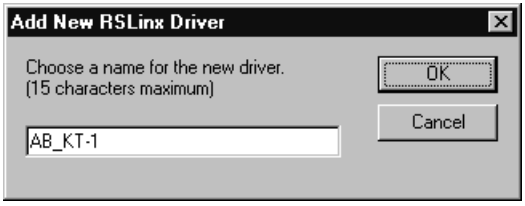
Configuring the Communications Driver

A driver is the software interface to the hardware device that allows RSLinx to communicate with your drive. To configure the driver, you need to:

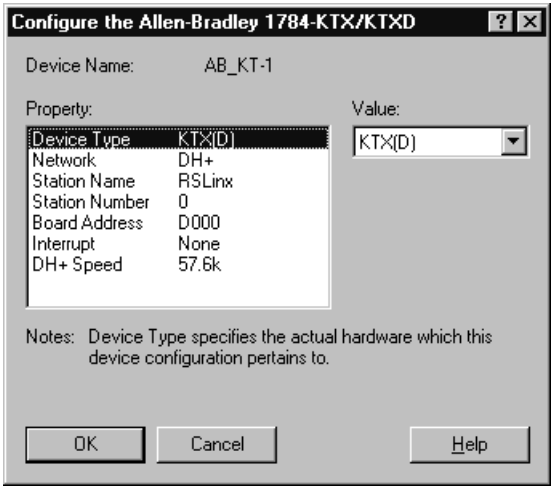
1. Start RSLinx.
2. In the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.



3. In the **Available Driver Types** field, select **1784-KT/KTX(D)/PKTX(D)/PCMK**. If you are using Windows NT and configuring a 1784-PCMK card, select **Allen-Bradley 1784-PCMK Devices**. Refer to the RSLinx online help if you have questions.
4. Click **Add New**. The **Add New RSLinx Driver** dialog box appears.



5. Type a name (if desired), and then click **OK**. The **Configure Allen-Bradley 1784-KTX/KTXD** dialog box appears.



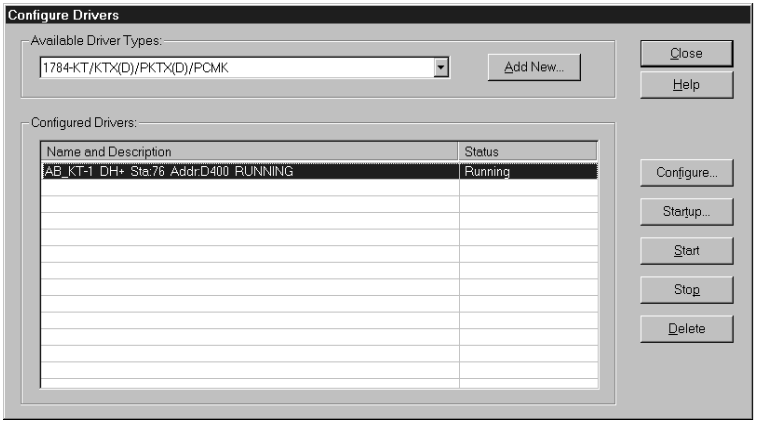
Important: If you are configuring a 1784-PCMK card, a different dialog box appears (not shown). If you are using Windows NT, you must specify an interrupt in the **Interrupt** field. To view interrupts in Windows NT, click the **Start** button, and select **Programs**, **Administrative Tools**, and **Windows NT Diagnostics**. In the **Windows NT Diagnostics** dialog box, click the **Resources** tab.

6. In the **Value** field, select the DH+ interface card that you are using.

7. In the **Property** box, edit fields to match the settings of the interface card.

Important: To edit a field, click it in the **Property** box; then select a value in the **Value** field.

8. Click **OK** to save the configuration. The new driver appears in the **Configure Drivers** dialog box.

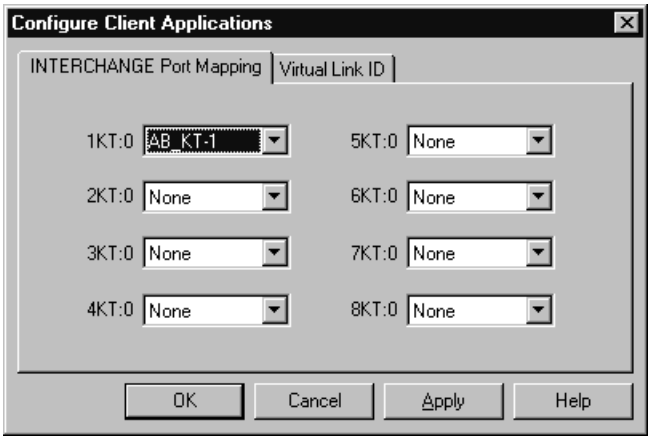


9. Click **Close**.

Mapping the Configured Driver to the KTPort Value

After configuring the driver, you must map it to a legacy INTERCHANGE API xKT:0 label in RSLinx so that DriveTools32 can use it. To map the configured driver, you need to:

1. In the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. In an unused **KT:0** field, select the new DH+ driver.

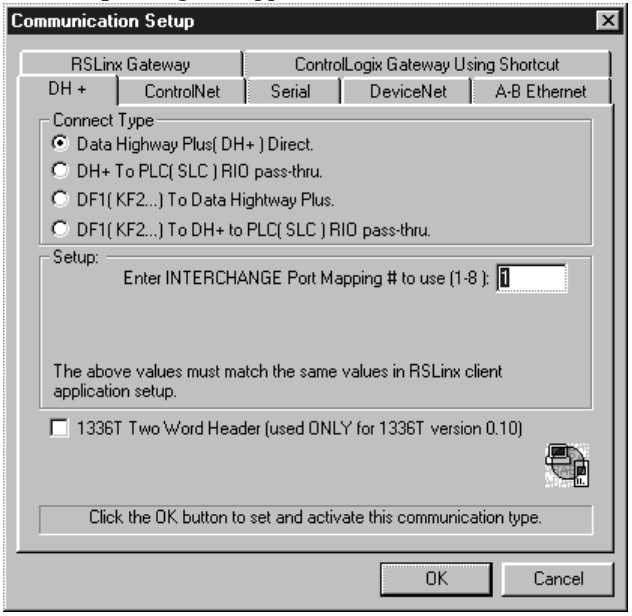
Important: Note the KT:0 field that you select. When you configure a DriveTools32 application, you need to enter the field number in the **Communication Setup** dialog box.

3. Click **OK** to map the driver to the KT:0 value.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you need to configure the application. To do so, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
Data Highway Plus(DH+) Direct.
DH+ To PLC(SLC) RIO pass-thru.
DF1(KF2...) To Data Hightway Plus.
DF1(KF2...) To DH+ to PLC(SLC) RIO pass-thru.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8):
1
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header (used ONLY for 1336T version 0.10)
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **DH+** tab.
4. Under **Connect Type**, select **Data Highway Plus (DH+) Direct**.
5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the DH+ driver in the RSLinx **Configure Client Applications** dialog box.

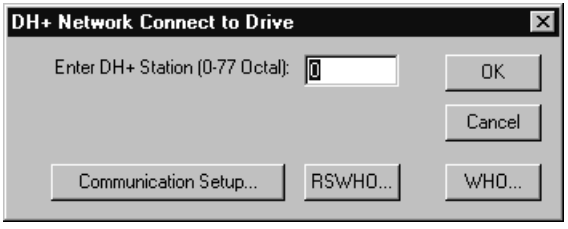
Important: To view the KT Port number used by the DH+ driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
7. Click **OK**.

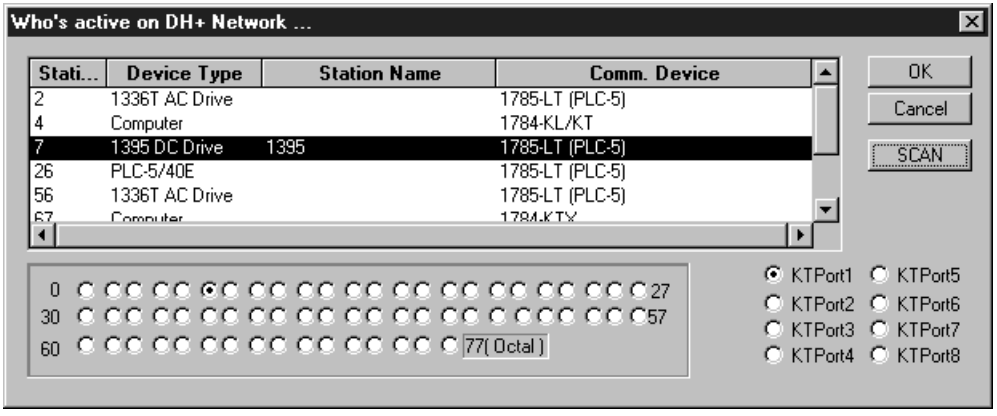
Connecting to the Drive

After configuring RSLinx and DriveTools32, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **DH+ Network Connect to Drive** dialog box appears.



2. Click **WHO**. The **WHO's Active on DH+ Network** dialog box appears.



3. Double-click the station to which you want to connect.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Using RS-232 to DH+ Communications

RS-232 to DH+ direct communications use an external converter (1770-KF2).

Important: If you are using an internal interface card, refer to “Using DH+ Direct Communications” on page 5-2.

Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Required Drive Hardware	Required Computer Hardware
1336 FORCE	PLC Communications Adapter Board (1336-GT1EN)	RS-232 port and 1770-KF2
1395	Multi-Communications Adapter Board (1395-KP51)	RS-232 port and 1770-KF2
A-B/ Stromberg	3500-TBX card (147096 or 157676)	RS-232 port and 1770-KF2

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.

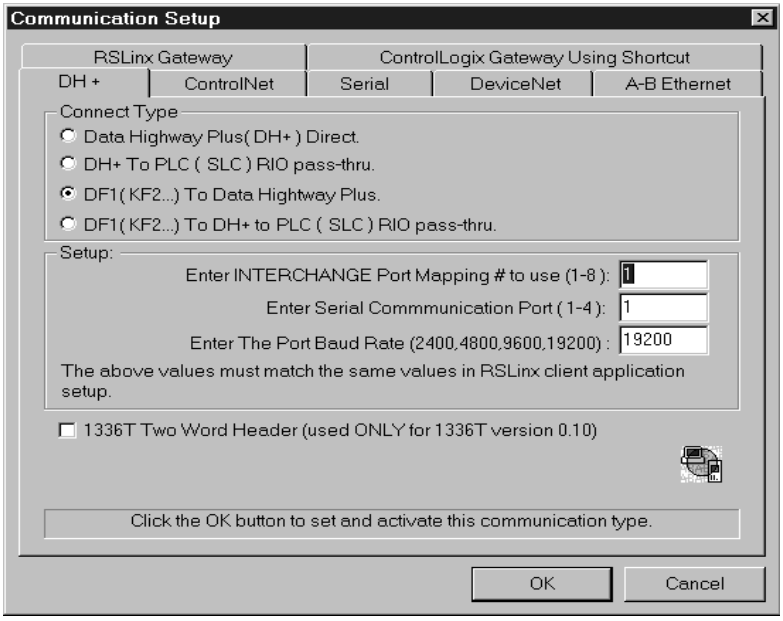
Configuring RSLinx

For RS-232 to DH+ communications, you must configure RSLinx for RS-232 serial communications. Refer to the “Configuring RSLinx” section in Chapter 3, *Setting Up RS-232 Point-to-Point Serial Communications,* for instructions on configuring RSLinx.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you need to configure the application.

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
Data Highway Plus(DH+) Direct.
DH+ To PLC (SLC) RIO pass-thru.
DF1(KF2...) To Data Hightway Plus.
DF1(KF2...) To DH+ to PLC (SLC) RIO pass-thru.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8):
1
Enter Serial Commmunication Port (1-4):
1
Enter The Port Baud Rate (2400,4800,9600,19200) :
19200
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header (used ONLY for 1336T version 0.10)
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **DH+** tab.
4. Under **Connect Type**, select **DF1 (KF2) To Data Highway Plus (DH+)**.
5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the DF1 driver in the RSLinx **Configure Client Applications** dialog box.

Important: To view the KT Port number used by DF1 communications, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. In the **Enter Serial Communication Port** field, type the number of the computer communications port that is being used.
7. In the **Enter The Port Baud Rate** field, type the baud rate that your communications module and port are using.

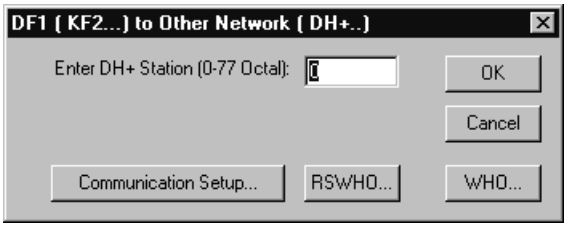
8. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.

9. Click **OK**.

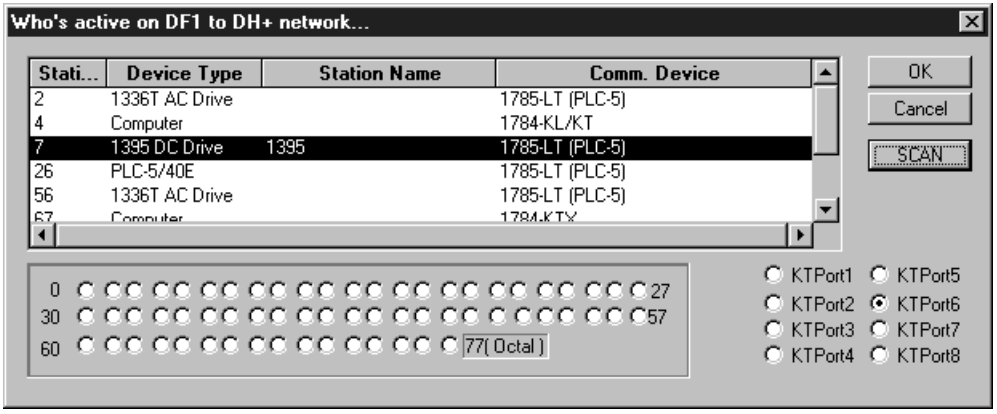
Connecting to the Drive

After configuring RSLinx and the DriveTools32 application, you are ready to connect to the drive.

1. In the **Drive** menu, select **Connect to Drive**. The **DF1(KF2...) to Other Network (DH+...)** dialog box appears.



2. Click **WHO**. The **WHO's active on DF1 to DH+ network** dialog box appears.



3. Double-click the station to which you want to connect.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Setting Up DH+ to RIO Block Transfer Pass Thru Communications

Chapter Objectives

Chapter 6 provides instructions for using DriveTools32 with DH+ to RIO Block Transfer (BT) Pass Thru communications. In this chapter, you will read about the following:

- Required equipment and settings.
- Configuring RSLinx for DH+ to RIO Block Transfer Pass Thru communications.
- Configuring a DriveTools32 application for DH+ to RIO Block Transfer Pass Thru communications.
- Connecting to a drive.

About DH+ to RIO Block Transfer Pass Thru Communications

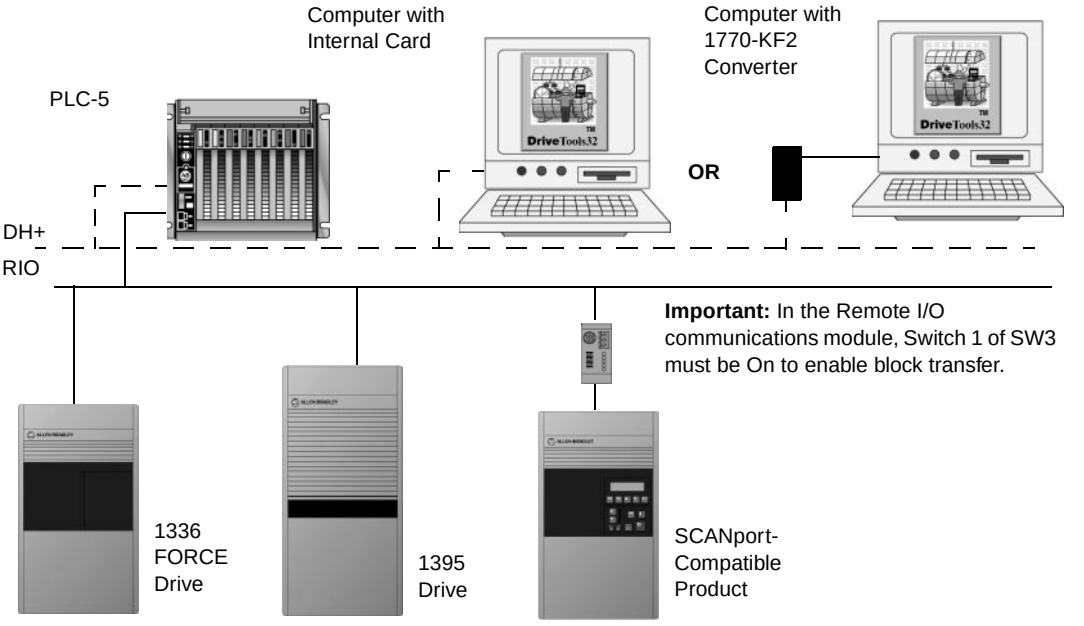
With DH+ (Data Highway Plus) to RIO (Remote I/O) Block Transfer Pass Thru communications, you access a controller over the DH+ network, and then you access a drive connected to that controller's RIO network. The RIO Block Transfer Pass Thru mechanism requires that a drive be connected to a controller (PLC-5 or SLC) over the RIO network and that block transfers are enabled.

When you use RIO Block Transfer Pass Thru communications, note:

- You cannot use DriveBlockEditor32 and the control features in DrivePanel32.
- You cannot use DriveMonitor32 to monitor parameters and data in a drive on an RIO network; however, you can use it to monitor parameters and data in the controller.
- You may observe that communications are slow. RIO Block Transfer Pass Thru communications to drives can take 2 seconds per point.
- If you are using an SLC, it must be from the SLC-500 processor family and use a Series B 1747-SN RIO scanner.

Figure 6.1 shows an example:

Figure 6.1
DH+ to RIO Block Transfer Pass Thru Network



How you set up the hardware and configure RSLinx and DriveTools32 for DH+ to RIO block transfer pass thru communications depends on whether you are using an internal interface card or external converter.

Using:	Communications	Refer To:
Internal Interface Card (1784-KT, -KTX, -KTXD, -PCMK)	DH+ to RIO Block Transfer Pass Thru	"Using DH+ to RIO Block Transfer Pass Thru Communications" on page 6-3
External Converter (1770-KF2)	RS-232 Serial to DH+ to RIO Block Transfer Pass Thru	"Using RS-232 to DH+ to RIO Block Transfer Pass Thru Communications" on page 6-7

Using DH+ to RIO Block Transfer Pass Thru Communications

With DH+ to RIO Block Transfer communications, you must use an internal interface card (1784-KT, -KTX, -KTXD, or -PCMK) in your computer.

Important: If you are using an external converter, see "Using RS-232 to DH+ to RIO Block Transfer Pass Thru Communications" on page 6-7.

Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport-Compatible①	Remote I/O Adapter (1203-GD1, 1203-GK1 or 1336-GM1) and appropriate cable(s)	1784-KT, -KTX, -KTXD, or -PCMK
1336 FORCE	PLC Communications Adapter Board (1336T-GT1EN)	1784-KT, -KTX, -KTXD, or -PCMK
1395	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	1784-KT, -KTX, -KTXD, or -PCMK

① For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32.*

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Ensure that block transfer is enabled in your adapter. If you are using a 1203-Gx1 or 1336-GM1 module, switch 1 on SW3 must be ON.

Important: Ensure that the ladder logic program and controller configuration reflect the image table with Block Transfer enabled.

- Note the Remote I/O adapter settings. You need to specify the rack and group number when configuring a DriveTools32 application:

Adapter	Refer To:
Remote I/O Adapter (1203-GD1, 1203-GK1 or 1336-GM1) and appropriate cable(s)	*Bulletin 1203 Remote I/O Communications Module User Manual*
PLC Communications Adapter Board (1336T-GT1EN)	*1336 FORCE PLC Communications Adapter User Manual*
Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	*Bulletin 1395 Multi-Communications Board Hardware/ Software Reference Manual*

- Ensure that the controller connected to the drive is not using any Block Transfer instructions addressed to the drive in its ladder logic program.
- Ensure that the controller connected to the drive is in RUN mode. If it is not in RUN mode, pass thru messages cannot be delivered to the connected drive product.

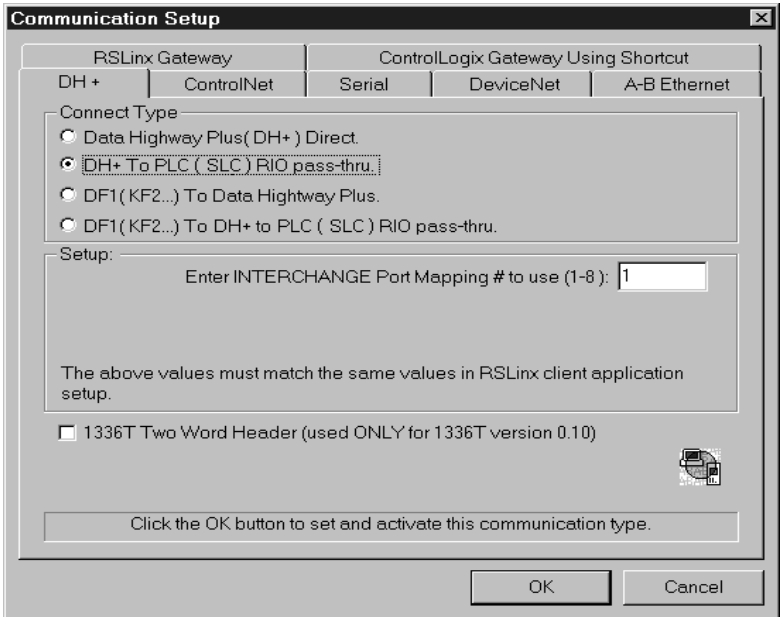
Configuring RSLinx

For DH+ to RIO Block Transfer Pass Thru communications, you must configure RSLinx for DH+ communications. Refer to the "Configuring RSLinx" section in Chapter 5, *Setting Up DH+ Direct Communications*, for instructions on configuring RSLinx.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application. To do this, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
Data Highway Plus(DH+) Direct.
DH+ To PLC (SLC) RIO pass-thru.
DF1(KF2...) To Data Highway Plus.
DF1(KF2...) To DH+ to PLC (SLC) RIO pass-thru.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8):
1
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header (used ONLY for 1336T version 0.10)
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **DH+** tab.
4. Under **Connect Type**, select **DH+ To PLC RIO pass-thru**.

5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the DH+ driver in the RSLinx **Configure Client Applications** dialog box.

Important: To view the KT Port number used by the DH+ driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.

7. Click **OK**. The following prompt appears.

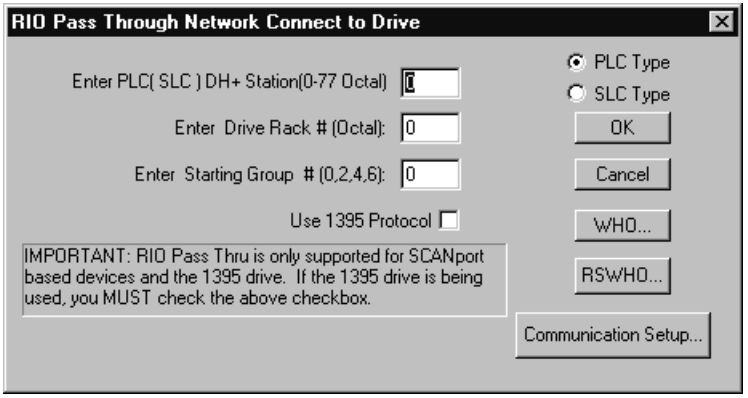
RIO COMMUNICATIONS
ATTENTION :
When using BT RIO Pass Thru for drive communications from the PC, you CANNOT use BT messaging in the PLC program for this drive!!!
OK
Cancel

8. Read the information, and then click **OK**.

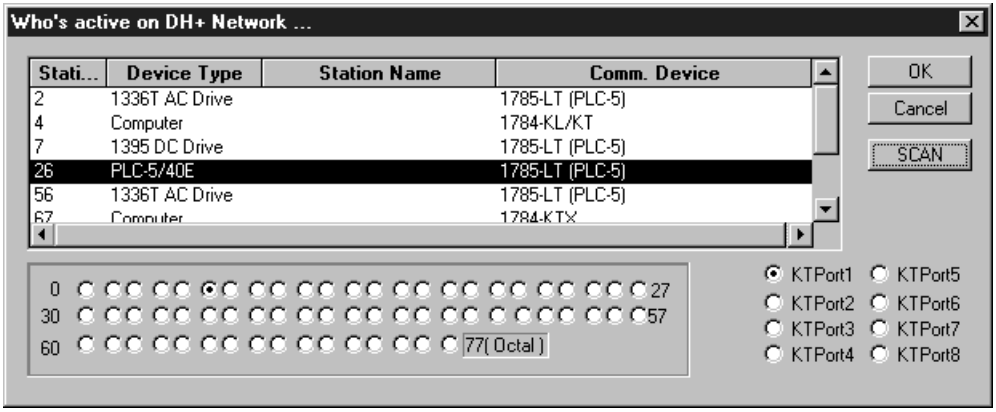
Connecting to the Drive

After configuring RSLinx and the DriveTools32 application, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **RIO Pass Through Network Connect to Drive** dialog box appears.


RIO Pass Through Network Connect to Drive
Enter PLC(SLC) DH+ Station(0-77 Octal)
0
Enter Drive Rack # (Octal):
0
Enter Starting Group # (0,2,4,6):
0
Use 1395 Protocol
IMPORTANT: RIO Pass Thru is only supported for SCANport based devices and the 1395 drive. If the 1395 drive is being used, you MUST check the above checkbox.
PLC Type
SLC Type
OK
Cancel
WHO...
RSWHO...
Communication Setup...

2. Click **WHO**. The **Who's Active on DH+ Network** dialog box appears.



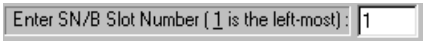
3. Double-click the controller (PLC or SLC) that has the drive connected to its RIO channel. (Note that the controller, not the drive on RIO, is displayed in the Who dialog box.) The **RIO Pass Thru Network Connect to Drive** dialog box reappears.

4. In the **Enter Drive Rack #** field, type the RIO rack number of the drive. The rack number is specified in octal and is set in the communications module.

5. In the **Enter Starting Group #** field, type the RIO starting group number of the drive. The RIO starting group number is set in the communications module. Valid numbers are 0, 2, 4, and 6.

6. Select either **PLC Type** or **SLC Type**.

7. If you are using an SLC, type the slot number of the RIO scanner in the **Enter SN/B Slot Number** field. This field appears only if you have selected SLC Type.



8. If you are using a 1395 drive, select **Use 1395 Protocol**.

9. Click **OK**.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Using RS-232 to DH+ to RIO Block Transfer Pass Thru Communications

RS-232 to DH+ to RIO Pass Thru communications require an external converter (1770-KF2).

Important: If you are using an internal interface card, refer to "Using DH+ to RIO Block Transfer Pass Thru Communications" on page 6-3.

Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport-Compatible[1]	Remote I/O Adapter (1203-GD1, 1203-GK1 or 1336-GM1) and appropriate cable(s)	RS-232 port and 1770-KF2
1336 FORCE	PLC Communications Adapter Board (1336T-GT1EN)	RS-232 port and 1770-KF2
1395	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	RS-232 port and 1770-KF2

[1] For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Ensure that block transfer is enabled in your adapter. If you are using a 1203-Gx1 or 1336-GM1 module, switch 1 on SW3 must be ON.

Important: Ensure that the ladder logic program and controller configuration reflect the image table with Block Transfer enabled.

- Note the Remote I/O adapter settings. You need to specify the rack and group number when configuring a DriveTools32 application.

Adapter	Refer To:
Remote I/O Adapter (1203-GD1, 1203-GK1 or 1336-GM1) and appropriate cable(s)	*Bulletin 1203 Remote I/O Communications Module User Manual*
PLC Communications Adapter Board (1336T-GT1EN)	*1336 FORCE PLC Communications Adapter User Manual*
Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	*Bulletin 1395 Multi-Communications Board Hardware/ Software Reference Manual*

- Ensure that the controller connected to the drive is not using any Block Transfer instructions addressed to the drive in its ladder logic program.
- Ensure that the controller connected to the drive is in RUN mode. If it is not in RUN mode, pass thru messages cannot be delivered to the connected drive product.

Configuring RSLinx

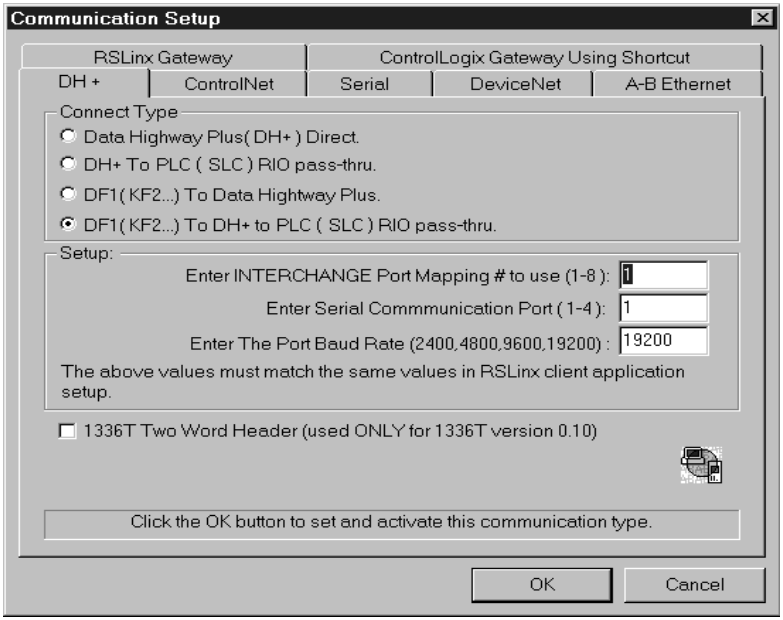
For RS-232 to DH+ to RIO Block Transfer Pass Thru communications, you must configure RSLinx for RS-232 serial communications. Refer to the "Configuring RSLinx" section in Chapter 3, *Setting Up RS-232 Point-to-Point Serial Communications,* for instructions on configuring RSLinx.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you need to configure the application. To do so, you need to:

1. Start the DriveTools32 application.

2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
Data Highway Plus(DH+) Direct.
DH+ To PLC (SLC) RIO pass-thru.
DF1(KF2...) To Data Hightway Plus.
DF1(KF2...) To DH+ to PLC (SLC) RIO pass-thru.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8): 1
Enter Serial Commmunication Port (1-4): 1
Enter The Port Baud Rate (2400,4800,9600,19200) : 19200
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header (used ONLY for 1336T version 0.10)
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **DH+** tab.

4. Under **Connect Type**, select **DF1 (KF2) DH+ To PLC RIO Pass Thru**.

5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the DF1 driver in the RSLinx **Configure Client Applications** dialog box.

Important: To view the KT Port number used by the DF1 driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. In the **Enter Serial Communication Port** field, type the number of the computer serial communications port that is being used.
7. In the **Enter The Port Baud Rate** field, type the baud rate that your communications module and port are using.
8. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
9. Click **OK**. The following prompt appears.

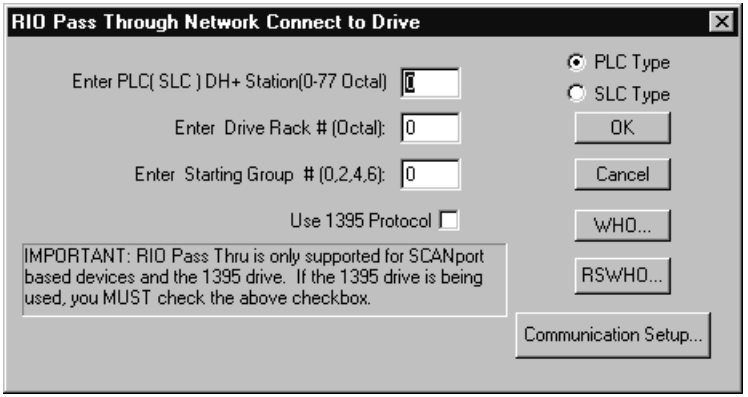
RIO COMMUNICATIONS
ATTENTION :
When using BT RIO Pass Thru for drive communications from the PC, you CANNOT use BT messaging in the PLC program for this drive!!!
OK
Cancel

10. Read the message, and then click **OK**.

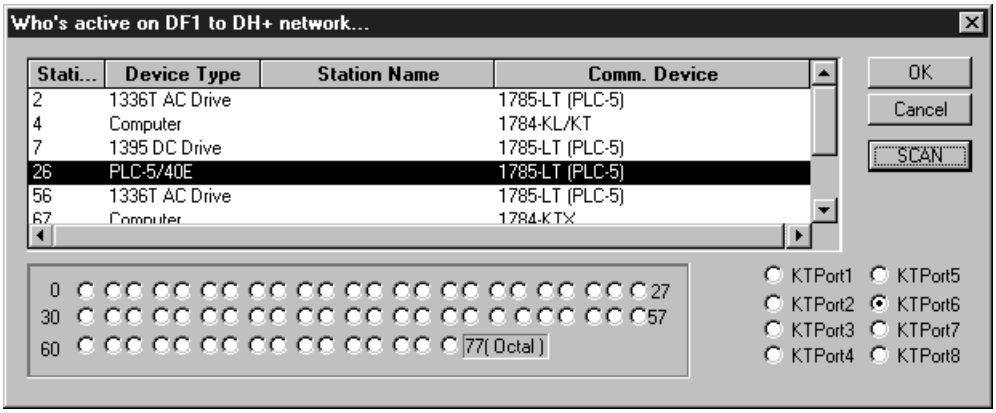
Connecting to the Drive

After configuring RSLinx and DriveTools32, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **RIO Pass Through Network Connect to Drive** dialog box appears.


RIO Pass Through Network Connect to Drive
Enter PLC(SLC) DH+ Station(0-77 Octal)
0
Enter Drive Rack # (Octal):
0
Enter Starting Group # (0,2,4,6):
0
Use 1395 Protocol
IMPORTANT: RIO Pass Thru is only supported for SCANport based devices and the 1395 drive. If the 1395 drive is being used, you MUST check the above checkbox.
PLC Type
SLC Type
OK
Cancel
WHO...
RSWHO...
Communication Setup...

2. Click **WHO**. The **Who's active on DF1 to DH+ network** dialog box appears.



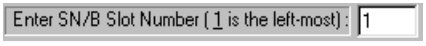
3. Double-click the controller (PLC or SLC) that has the drive connected to its RIO channel. (Note that the controller, not the RIO device, is displayed in the Who dialog box.) The **RIO Pass Thru Network Connect to Drive** dialog box reappears.

4. In the **Enter Drive Rack #** field, type the RIO rack number of the drive. The rack number is specified in octal and is set in the communications module.

5. In the **Enter Starting Group #** field, type the RIO starting group number of the drive. The RIO starting group number is set in the communications module. Valid numbers are 0, 2, 4, and 6.

6. Select either **PLC Type** or **SLC Type**.

7. If you are using an SLC, type the slot number of the RIO scanner in the **Enter SN/B Slot Number** field. This field appears only if you have selected SLC Type.



8. If you are using a 1395 drive, select **Use 1395 Protocol**.

9. Click **OK**.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Setting Up ControlNet Direct Communications

Chapter Objectives

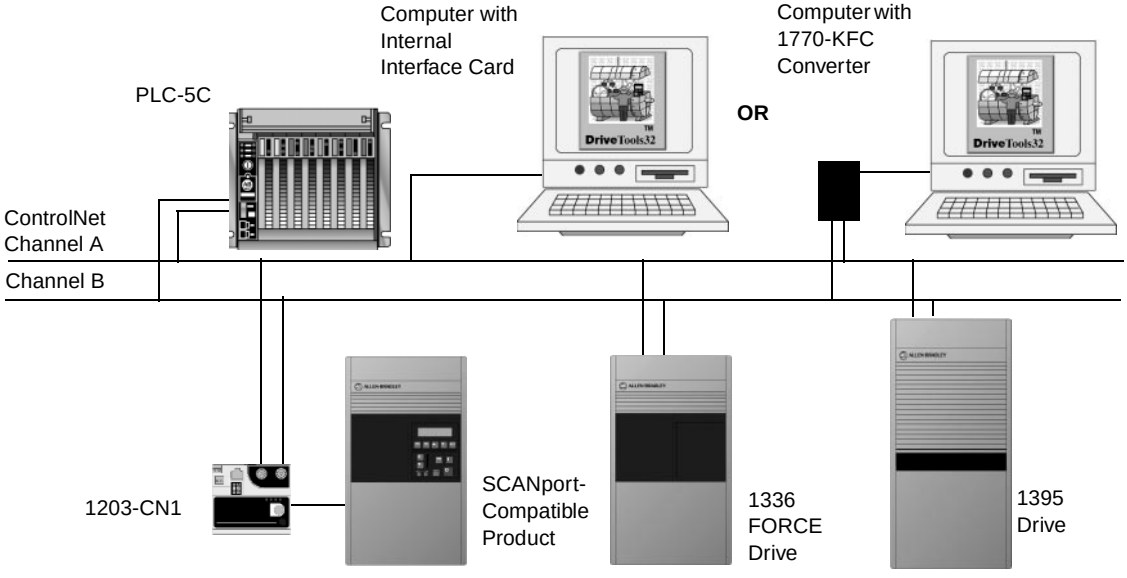
Chapter 7 provides instructions for using DriveTools32 with ControlNet communications. In this chapter, you will read about the following:

- Required equipment and settings.
- Configuring RSLinx for ControlNet direct communications.
- Configuring a DriveTools32 application for ControlNet direct communications.
- Connecting to a drive.

About ControlNet Communications

ControlNet is a real-time, control-layer network providing high-speed deterministic transport of time-critical I/O data. With ControlNet direct communications, you access a drive over a ControlNet network using messaging data (this is not real-time). Figure 7.1 shows an example:

Figure 7.1
ControlNet Communications



How you set up the hardware and configure RSLinx and DriveTools32 for ControlNet direct communications depends on whether you are using an internal interface card or external converter.

Using:	Communications	Refer To:
Internal Interface Card (1784-KTC, -KTCX, -PCC)	ControlNet Direct	"Using ControlNet Direct Communications" on page 7-2
External Converter (1770-KFC)	RS-232 Serial to ControlNet Direct	"Using RS-232 to ControlNet Direct Communications" on page 7-8

Using ControlNet Direct Communications

ControlNet direct communications use an internal interface card (1784-KTC, -KTCX, or -PCC).

Important: If you are using an external converter, refer to "Using RS-232 to ControlNet Direct Communications" on page 7-8.

Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport-Compatible[1]	ControlNet Adapter (1203-CN1) and appropriate cables	1784-KTC, -KTCX, or -PCC
1336 FORCE	ControlNet Adapter Board (1336T-GT3EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	1784-KTC, -KTCX, or -PCC
1395	ControlNet Adapter Board (1395-KP54EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	1784-KTC, -KTCX, or -PCC

[1] For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Ensure that a ControlNet interface device (e.g., a 1784-KTC(X) board) is installed correctly in your computer.

- Ensure that the adapter is correctly configured. Refer to the appropriate manual:

Communications Adapter	Refer To:
1203-CN1 Communications Module	*ControlNet Communications Module User Manual*
ControlNet Communications Board (1336-GT3EN)	*1336 FORCE ControlNet User Manual*
ControlNet Communications Board (1395-KP54EN)	*Bulletin 1395 ControlNet Communication Board User Manual*

- If you are using a ControlNet communications board with a 1336 FORCE or 1395 drive, use a ControlNet Repeater Adapter and ControlNet Fiber Module to connect the network to your drive.

Configuring RSLinx

The following instructions describe how to configure RSLinx for ControlNet communications. If you have questions about RSLinx, refer to its online help.

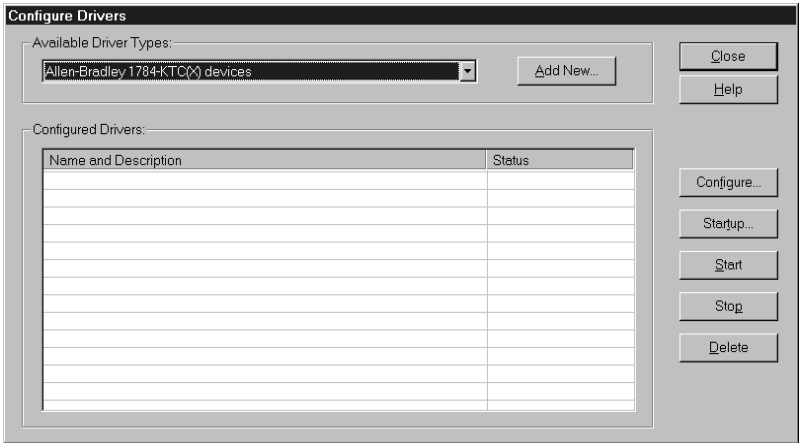
To use RSLinx for a ControlNet direct communications, you need to:

- Configure the communications driver.
- Map the configured driver to the KTPort Value.

Configuring the Communications Driver

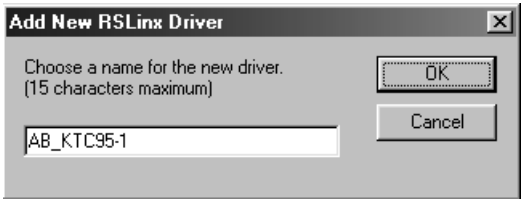
A driver is the software interface to the hardware device that allows RSLinx to communicate with your drive. To configure the driver, you need to:

1. Start RSLinx.
2. In the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.



3. In the **Available Driver Types** field, select **Allen-Bradley 1784-KTC(X) devices**. If you are using a 1784-PCC card, select **1784-PCC (PCMCIA for ControlNet)**.

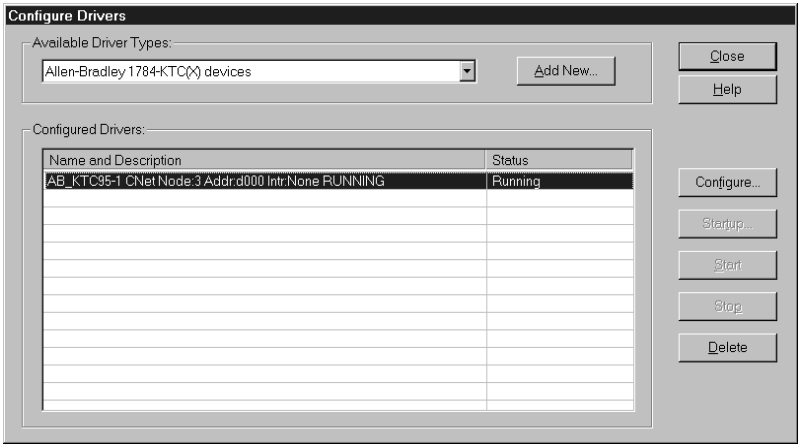
4. Click **Add New**. The **Add New RSLinx Driver** dialog box appears.



5. Click **OK**. The **Configure Allen-Bradley 1784-KTC(X)** dialog box appears.

6. Verify the information is correct.

7. Click **OK** to configure the driver. The new driver appears in the **Configure Drivers** dialog box.

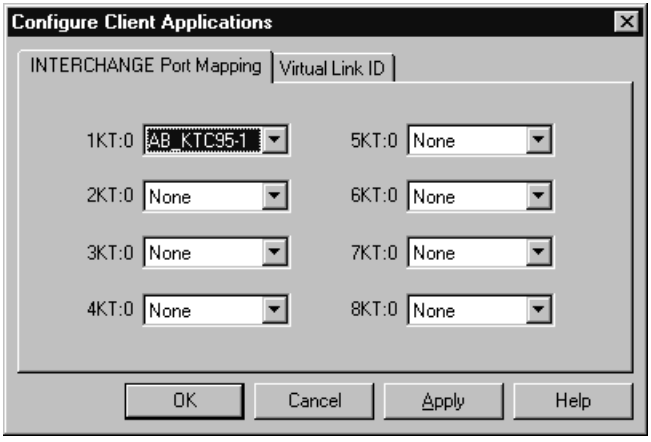


8. Click **Close**.

Mapping the Configured Driver to the KTPort Value

After configuring the driver, you must map it to a legacy INTERCHANGE API xKT:0 label in RSLinx. To map the configured driver, you need to:

1. In the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. In an unused **KT:0** field, select the ControlNet driver.

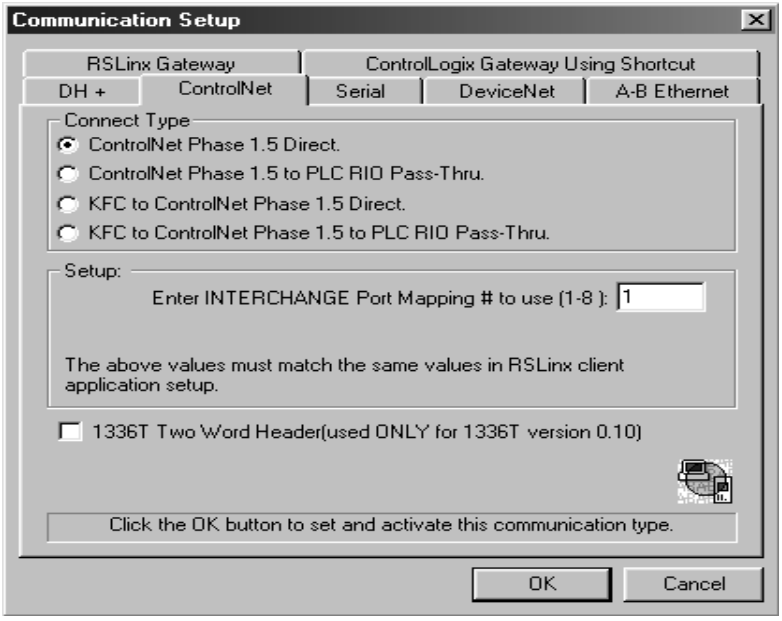
Important: Note the KT:0 field that you select. When you configure a DriveTools32 application, you need to enter the field number in the **Communication Setup** dialog box.

3. Click **OK**.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application. To do this, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
ControlNet Phase 1.5 Direct.
ControlNet Phase 1.5 to PLC RIO Pass-Thru.
KFC to ControlNet Phase 1.5 Direct.
KFC to ControlNet Phase 1.5 to PLC RIO Pass-Thru.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8):
1
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header(used ONLY for 1336T version 0.10)
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **ControlNet** tab.
4. Under **Connect Type**, select **ControlNet Phase 1.5 Direct**.
5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the ControlNet driver in the RSLinx **Configure Client Applications** dialog box.

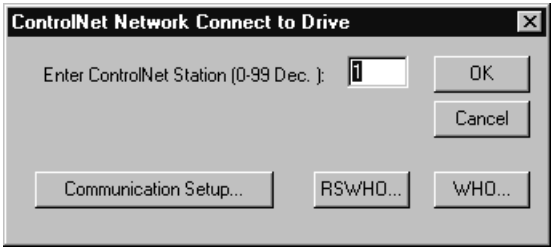
Important: To view the KT Port number used by the ControlNet driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
7. Click **OK**.

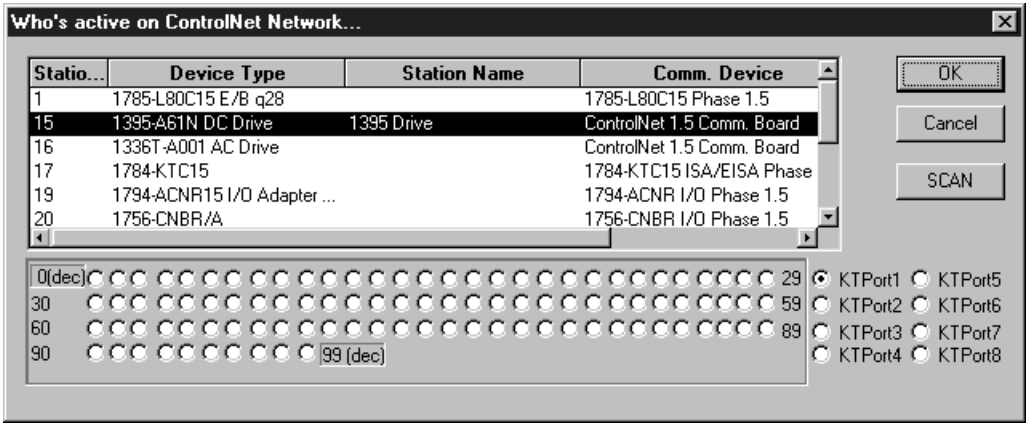
Connecting to the Drive

After configuring RSLinx and the DriveTools32 application, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **ControlNet Network Connect to Drive** dialog box appears.



2. Click **WHO**. The **Who's active on ControlNet Network** dialog box appears.



3. Double-click on the drive to which you want to connect.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Using RS-232 to ControlNet Direct Communications

RS-232 to ControlNet direct communications use an external converter (1770-KFC).

Important: If you are using an internal interface card, refer to "Using ControlNet Direct Communications" on page 7-2.

Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport-Compatible[1]	ControlNet Adapter (1203-CN1) and appropriate cables	1770-KFC and RS-232 port
1336 FORCE	ControlNet Adapter Board (1336T-GT3EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	1770-KFC and RS-232 port
1395	ControlNet Adapter Board (1395-KP54EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	1770-KFC and RS-232 port

[1] For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Ensure that a ControlNet converter (e.g., a 1770-KFC board) is installed correctly.
- Ensure that the adapter is correctly configured. Refer to its manual:

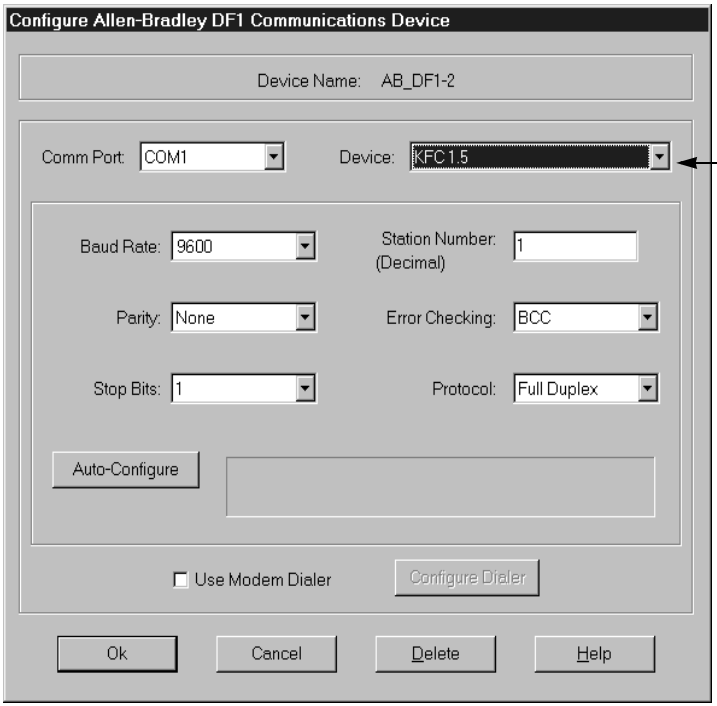
Communications Adapter	Refer To:
1203-CN1 Communications Module	*ControlNet Communications Module User Manual*
ControlNet Communications Board (1336-GT3EN)	*1336 FORCE ControlNet User Manual*
ControlNet Communications Board (1395-CNA)	*Bulletin 1395 ControlNet Communication Board*

- If you are using a ControlNet communications board with a 1336 FORCE or 1395 drive, use a ControlNet Repeater Adapter and ControlNet Fiber Module to connect the network to your drive.

Configuring RSLinx

For RS-232 to ControlNet communications, you must configure RSLinx for RS-232 serial communications.

Important: When configuring a driver for RS-232 to ControlNet, you should select the **KFC 1.5** card in the **Device** field of the following RSLinx dialog box.

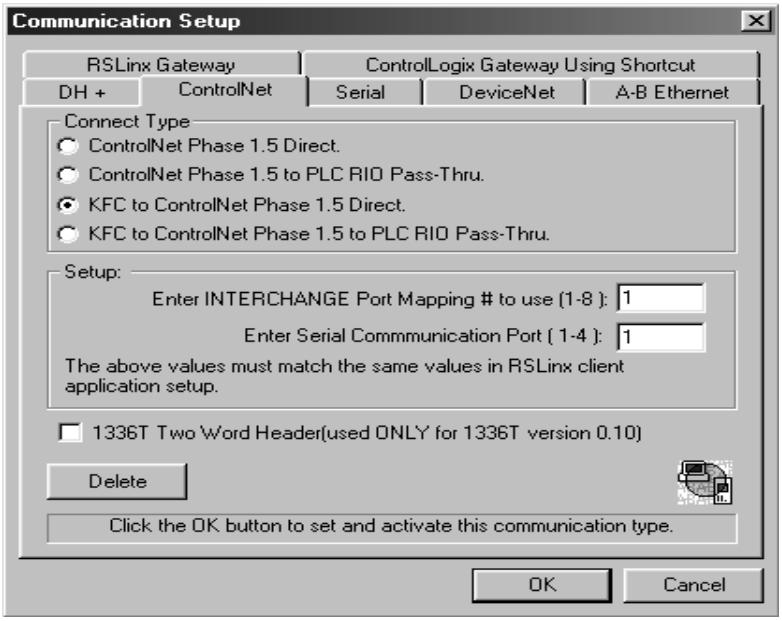


Refer to the “Configuring RSLinx” section in Chapter 3, *Setting Up RS-232 Point-to-Point Serial Communications*, for instructions on configuring RSLinx.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application. To do this, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
ControlNet Phase 1.5 Direct.
ControlNet Phase 1.5 to PLC RIO Pass-Thru.
KFC to ControlNet Phase 1.5 Direct.
KFC to ControlNet Phase 1.5 to PLC RIO Pass-Thru.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8): 1
Enter Serial Commmunication Port (1-4): 1
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header(used ONLY for 1336T version 0.10)
Delete
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **ControlNet** tab.
4. Under **Connect Type**, select **KFC to ControlNet Phase 1.5 Direct**.
5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the ControlNet driver in the RSLinx **Configure Client Applications** dialog box.

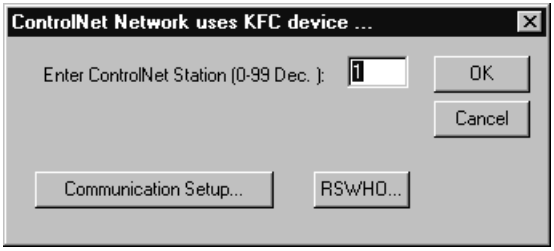
Important: To view the KT Port number used by the DF1 driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
7. Click **OK**.

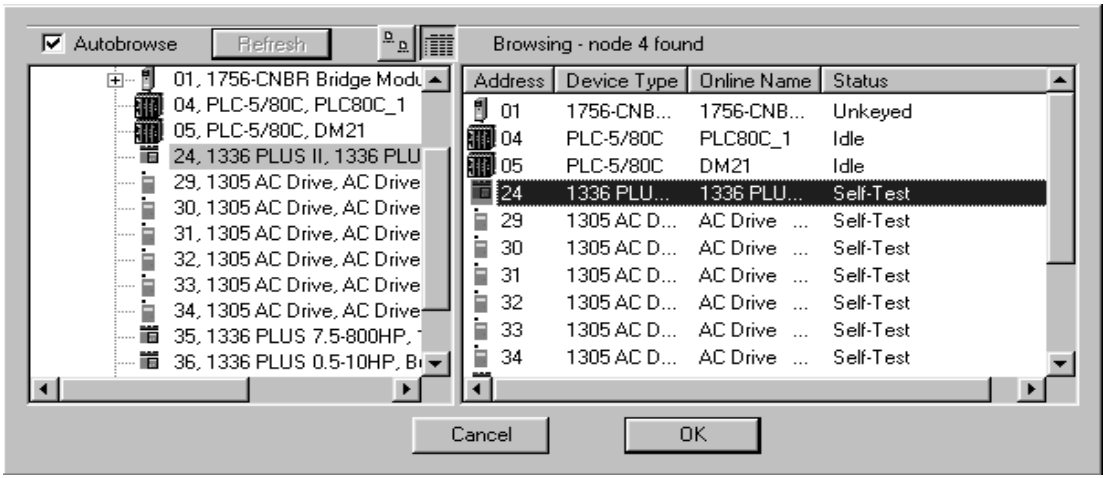
Connecting to the Drive

After configuring RSLinx and the DriveTools32 application, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **ControlNet Network uses KFC device Connect to Drive** dialog box appears.



2. Click **RSWHO**. The **RSWHO** dialog box appears.


Autobrowse
Refresh
Browsing - node 4 found
01, 1756-CNBR Bridge Modu
04, PLC-5/80C, PLC80C_1
05, PLC-5/80C, DM21
24, 1336 PLUS II, 1336 PLU
29, 1305 AC Drive, AC Drive
30, 1305 AC Drive, AC Drive
31, 1305 AC Drive, AC Drive
32, 1305 AC Drive, AC Drive
33, 1305 AC Drive, AC Drive
34, 1305 AC Drive, AC Drive
35, 1336 PLUS 7.5-800HP,
36, 1336 PLUS 0.5-10HP, Bu
Address
Device Type
Online Name
Status
01 1756-CNB... 1756-CNB... Unkeyed
04 PLC-5/80C PLC80C_1 Idle
05 PLC-5/80C DM21 Idle
24 1336 PLU... 1336 PLU... Self-Test
29 1305 AC D... AC Drive ... Self-Test
30 1305 AC D... AC Drive ... Self-Test
31 1305 AC D... AC Drive ... Self-Test
32 1305 AC D... AC Drive ... Self-Test
33 1305 AC D... AC Drive ... Self-Test
34 1305 AC D... AC Drive ... Self-Test
Cancel
OK

3. Navigate to the desired drive.

4. Double-click on the drive to which you want to connect.

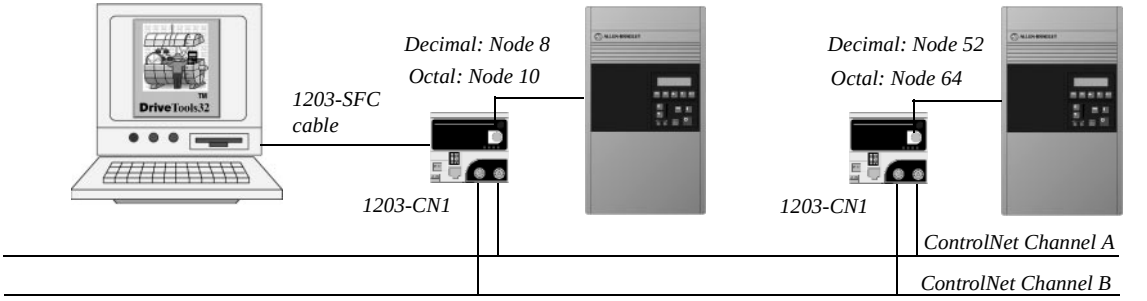
The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Using a 1203-CN1 Module to Connect to a ControlNet Network

A 1203-CN1 module lets you connect to a ControlNet network via its serial port.

Figure 7.2
Connecting to a ControlNet Network via a 1203-CN1 Module



Before using this type of connection, you must do the following:

- Note the station number of the module on the ControlNet network. It is displayed on the front of the module as a decimal value. **You must convert this value from the displayed decimal value to an octal value.** You can use the Windows Calculator program set in scientific mode to do the calculation.
- Note the serial baud rate of the module. View *Serial Port Rate* (Parameter 21) to find the baud rate. Refer to the *ControlNet Communications Module User Manual* for information on viewing and editing module parameters.
- Remember that you can access 99 stations on the ControlNet network.

In RSLinx, you need to configure RS-232 point-to-point or multi-drop serial communications (Refer to Chapter 3). As you configure RSLinx, you need to:

- Enter the correct station number as an octal value in the **Configure Allen-Bradley DF1 Communications Device** dialog box.
- Select the correct baud rate in the **Configure Allen-Bradley DF1 Communications Device** dialog box.

In a DriveTools32 application, you must set up RS-232 point-to-point communications (Refer to Chapter 3). As you configure the DriveTools32 application, you must:

- Enter the correct baud rate in the **Communication Setup** dialog box.
- Enter the station number to which you intend to connect as an octal value in the **SCANport Network Connect to Drive** dialog box.
- Note that you cannot use the **WHO** button if you are using a point-to-point connection.

Important: Verify that you have connected to the correct product before you use the DriveTools32 application to edit parameters or control the product.

Setting Up ControlNet to RIO Block Transfer Pass Thru Communications

Chapter Objectives

Chapter 8 provides instructions for using DriveTools32 with ControlNet to RIO Block Transfer (BT) Pass Thru communications. In this chapter, you will read about the following:

- Required equipment and settings.
- Configuring RSLinx for ControlNet to RIO Block Transfer Pass Thru communications.
- Configuring a DriveTools32 application for ControlNet to RIO Block Transfer Pass Thru communications.
- Connecting to a drive.

About ControlNet to RIO Block Transfer Pass Thru Communications

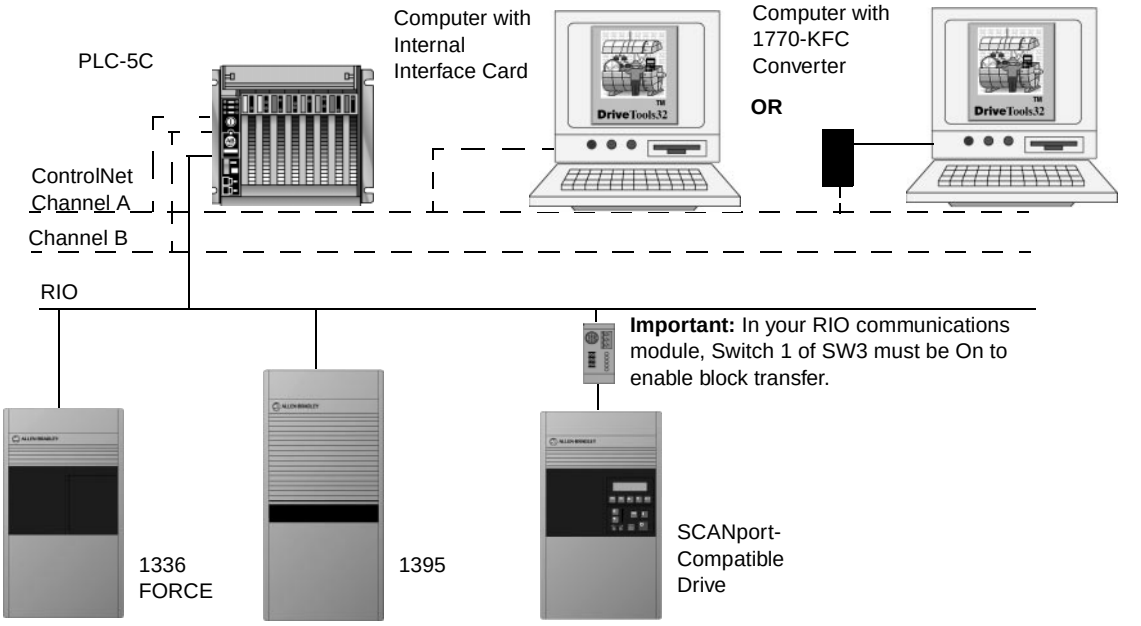
With a ControlNet to RIO (Remote I/O) Block Transfer Pass Thru communications, you access a controller over the ControlNet network, and then you access a drive connected to the controller's RIO network. The RIO Block Transfer Pass Thru mechanism requires that a drive be connected to a controller (PLC-5) over the RIO network and that block transfer is enabled.

When you use RIO Block Transfer Pass Thru communications, note:

- You cannot use DriveBlockEditor32 and the control features in DrivePanel32.
- You cannot use DriveMonitor32 to monitor parameters and data in a drive on an RIO network; however, you can use it to monitor parameters and data in the controller.
- You may observe that communications are slow. RIO Block Transfer Pass Thru communications to drives can take 2 seconds per point.

Figure 8.1 shows an example:

Figure 8.1
ControlNet to RIO Block Transfer Pass Thru Network



How you set up the hardware and configure RSLinx and DriveTools32 for ControlNet to RIO Block Transfer Pass Thru communications depends on whether you are using an internal interface card or external converter.

Using:	Communications	Refer To:
Internal Interface Card (1784-KTC, -KTCX, -PCC)	ControlNet to RIO Block Transfer Pass Thru	"Using ControlNet to RIO Block Transfer Pass Thru Communications" on page 8-3
External Converter (1770-KFC)	RS-232 Serial to ControlNet to RIO Block Transfer Pass Thru	"Using RS-232 to ControlNet to RIO Block Transfer Pass Thru Communications" on page 8-7

Using ControlNet to RIO Block Transfer Pass Thru Communications

ControlNet to RIO Block Transfer Pass Thru communications use an internal interface card (1784-KTC, -KTCX, or -PCC) in your computer.

Important: If you are using an external interface card, refer to "Using RS-232 to ControlNet to RIO Block Transfer Pass Thru Communications" on page 8-7.

Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport-Compatible[1]	Remote I/O adapter (1203-GD1, 1203-GK1, or 1336-GM1) and appropriate cable(s)	1784-KTC, -KTCX, or -PCC
1336 FORCE	PLC Communications Adapter Board (1336T-GT1EN)	1784-KTC, -KTCX, or -PCC
1395	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	1784-KTC, -KTCX, or -PCC

[1] For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Ensure that block transfer is enabled in your adapter. If you are using a 1203-Gx1 or 1336-GM1 module, switch 1 on SW3 must be ON.

Important: Ensure that the ladder logic program and controller configuration reflect the image table with Block Transfer enabled.

- Note the Remote I/O adapter settings. You need to specify the rack and group number when configuring a DriveTools32 application.

If Using:	Refer To:
Remote I/O Adapter (1203-GD1, 1203-GK1 or 1336-GM1) and appropriate cable(s)	*Bulletin 1203 Remote I/O Communications Module User Manual*
PLC Communications Adapter Board (1336T-GT1EN)	*1336 FORCE PLC Communications Adapter User Manual*
Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	*Bulletin 1395 Multi-Communications Board Hardware/ Software Reference Manual*

- Ensure that the controller connected to the drive is not using any Block Transfer instructions addressed to the drive in its ladder logic program.
- Ensure that the controller connected to the drive is in RUN mode. If it is not in RUN mode, pass thru messages cannot be delivered to the connected drive product.

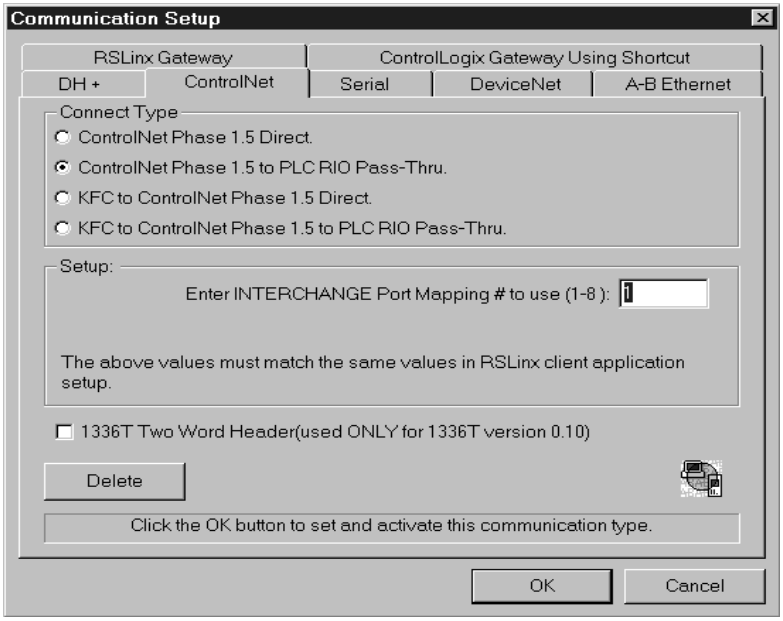
Configuring RSLinx

For ControlNet to RIO Block Transfer Pass Thru communications, you must configure RSLinx for ControlNet communications. Refer to the "Configuring RSLinx" section in Chapter 7, *Setting Up ControlNet Direct Communications*, for instructions on configuring RSLinx.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure it. To do so, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
ControlNet Phase 1.5 Direct.
ControlNet Phase 1.5 to PLC RIO Pass-Thru.
KFC to ControlNet Phase 1.5 Direct.
KFC to ControlNet Phase 1.5 to PLC RIO Pass-Thru.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8):
1
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header(used ONLY for 1336T version 0.10)
Delete
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **ControlNet** tab.
4. Under **Connect Type**, select **ControlNet Phase 1.5 to PLC RIO Pass-Thru**.

5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the ControlNet driver in the RSLinx **Configure Client Applications** dialog box.

Important: To view the KT Port number used by the ControlNet driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.

7. Click **OK**. The following prompt appears.

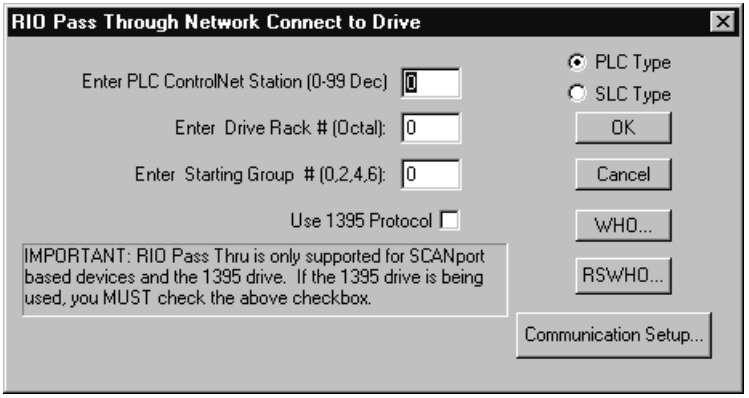
RIO COMMUNICATIONS
ATTENTION :
When using BT RIO Pass Thru for drive communications from the PC, you CANNOT use BT messaging in the PLC program for this drive!!!
OK
Cancel

8. Read the information, and then click **OK** to save the configuration.

Connecting to the Drive

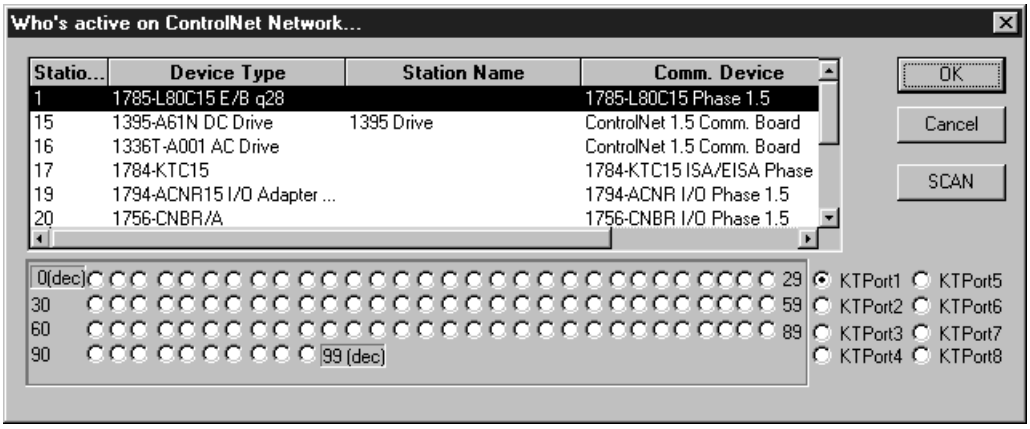
After configuring RSLinx and the DriveTools32 application, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **RIO Pass Through Network Connect to Drive** dialog box appears.


RIO Pass Through Network Connect to Drive
Enter PLC ControlNet Station (0-99 Dec)
0
Enter Drive Rack # (Octal):
0
Enter Starting Group # (0,2,4,6):
0
Use 1395 Protocol
IMPORTANT: RIO Pass Thru is only supported for SCANport based devices and the 1395 drive. If the 1395 drive is being used, you MUST check the above checkbox.
PLC Type
SLC Type
OK
Cancel
WHO...
RSWHO...
Communication Setup...

2. Click **WHO**.

The **Who's active on ControlNet network** dialog box appears.



3. Double-click the controller (PLC-5C) that has the drive connected to its RIO channel. (Note that the controller, not the drive on RIO, is displayed in the Who dialog box.) The **RIO Pass Thru Network Connect to Drive** dialog box reappears.

4. In the **Enter Drive Rack #** field, type the RIO rack number of the drive. The rack number is specified in octal and is set in the communications module.

5. In the **Enter Starting Group #** field, type the RIO starting group number of the drive. The RIO starting group number is set in the communications module. Valid numbers are 0, 2, 4, and 6.

6. Select **PLC Type**.

7. If you are using a 1395 drive, select **Use 1395 Protocol**.

8. Click **OK**.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Using RS-232 to ControlNet to RIO Block Transfer Pass Thru Communications

RS-232 to ControlNet to RIO Block Transfer Pass Thru communications use an external converter (1770-KFC).

Important: If you are using an interface card, refer to "Using ControlNet to RIO Block Transfer Pass Thru Communications" on page 8-3.

Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport Product[1]	Remote I/O adapter (1203-GD1, 1203-GK1, or 1336-GM1) and appropriate cable(s)	1770-KFC and RS-232 port
1336 FORCE	PLC Communications Adapter Board (1336T-GT1EN)	1770-KFC and RS-232 port
1395	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	1770-KFC and RS-232 port

[1] For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Ensure that block transfer is enabled in your adapter. If you are using a 1203-Gx1 or 1336-GM1 module, switch 1 on SW3 must be ON.

Important: Ensure that the ladder logic program and PLC configuration reflect the image table with Block Transfer enabled.

- Note the Remote I/O adapter settings. You need to specify the rack and group number when configuring a DriveTools32 application.

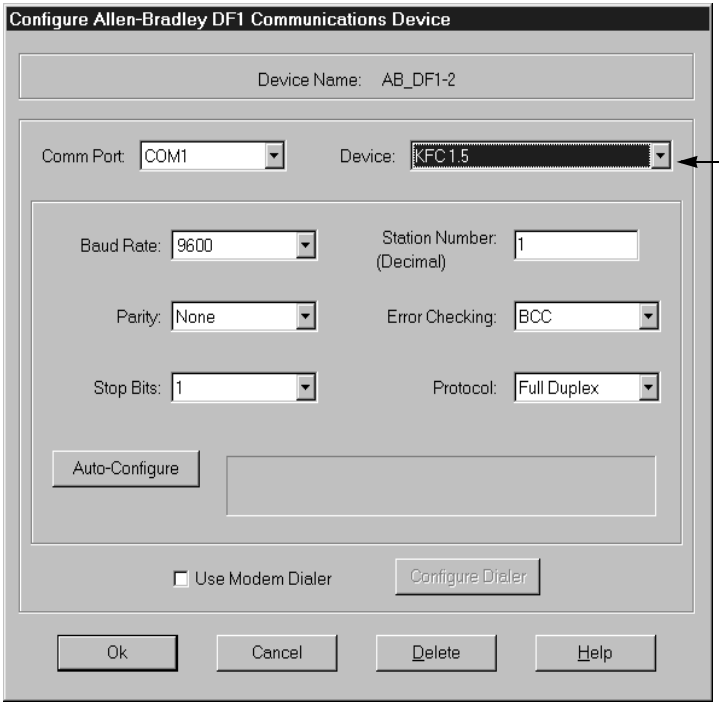
If Using:	Refer To:
Remote I/O Adapter (1203-GD1, 1203-GK1 or 1336-GM1) and appropriate cable(s)	*Bulletin 1203 Remote I/O Communications Module User Manual*
PLC Communications Adapter Board (1336T-GT1EN)	*1336 FORCE PLC Communications Adapter User Manual*
Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	*Bulletin 1395 Multi-Communications Board Hardware/ Software Reference Manual*

- Ensure that the controller connected to the drive is not using any Block Transfer instructions addressed to the drive in its ladder logic program.
- Ensure that the controller connected to the drive is in RUN mode. If it is not in RUN mode, pass thru messages cannot be delivered to the connected drive product.

Configuring RSLinx

For RS-232 to ControlNet communications, you must configure RSLinx for RS-232 serial communications.

Important: When configuring a driver for RS-232 to ControlNet, you should select the **KFC 1.5** card in the **Device** field of the following RSLinx dialog box.



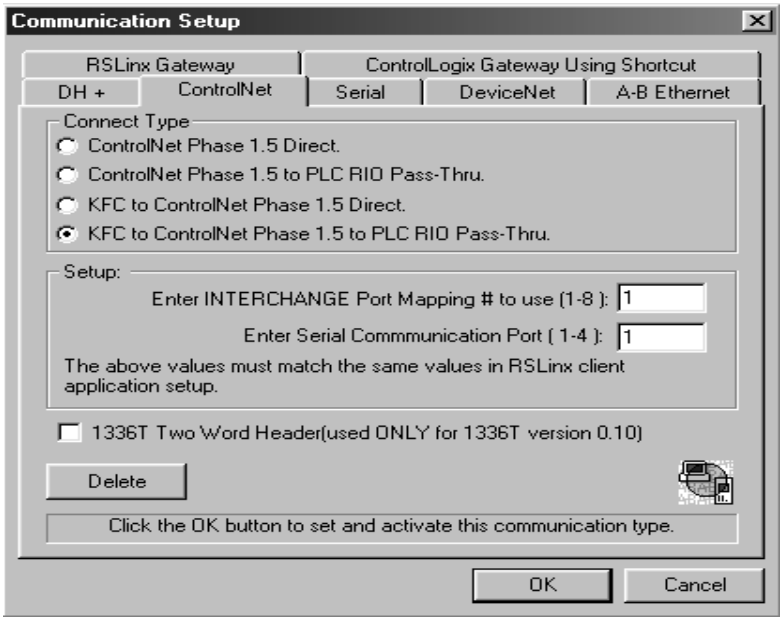
Refer to the “Configuring RSLinx” section in Chapter 3, *Setting Up RS-232 Point-to-Point Serial Communications,* for instructions on configuring RSLinx.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure it. To do so, you need to:

1. Start the DriveTools32 application.

2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
ControlNet Phase 1.5 Direct.
ControlNet Phase 1.5 to PLC RIO Pass-Thru.
KFC to ControlNet Phase 1.5 Direct.
KFC to ControlNet Phase 1.5 to PLC RIO Pass-Thru.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8): 1
Enter Serial Commmunication Port (1-4): 1
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header(used ONLY for 1336T version 0.10)
Delete
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **ControlNet** tab.

4. Under **Connect Type**, select **KFC to ControlNet Phase 1.5 to PLC RIO Pass-Thru**.

5. In the **Enter INTERCHANGE Port Mapping** field, type the number of the KT:0 port used by the ControlNet driver in the RSLinx **Configure Client Applications** dialog box.

Important: To view the KT Port number used by the ControlNet driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.

7. Click **OK**. The following prompt appears.

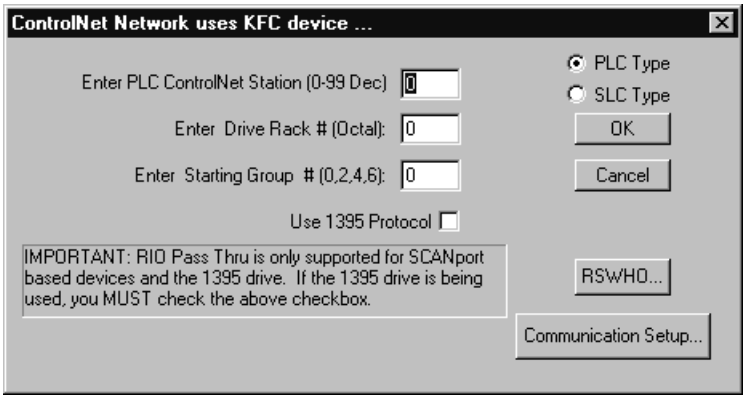
RIO COMMUNICATIONS
ATTENTION :
When using BT RIO Pass Thru for drive communications from the PC, you CANNOT use BT messaging in the PLC program for this drive!!!
OK
Cancel

8. Read the information, and then click **OK** to save the configuration.

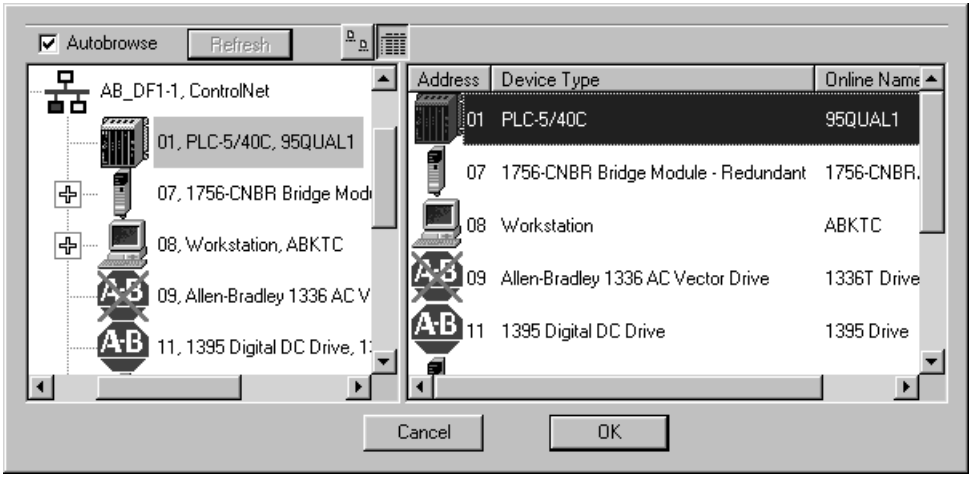
Connecting to the Drive

After configuring RSLinx and the DriveTools32 application, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **ControlNet Network uses KFC device** dialog box appears.


ControlNet Network uses KFC device ...
Enter PLC ControlNet Station (0-99 Dec)
0
Enter Drive Rack # (Octal):
0
Enter Starting Group # (0,2,4,6):
0
Use 1395 Protocol
IMPORTANT: RIO Pass Thru is only supported for SCANport based devices and the 1395 drive. If the 1395 drive is being used, you MUST check the above checkbox.
PLC Type
SLC Type
OK
Cancel
RSWHO...
Communication Setup...

2. Click **RSWHO**. The **RSWHO** dialog box appears.



3. Double-click the controller (PLC-5C) that has the drive connected to its RIO channel. (Note that the controller, not the drive on RIO, is displayed in the RSWHO dialog box.) The **ControlNet Network uses KFC device** dialog box reappears.

4. In the **Enter Drive Rack #** field, type the RIO rack number of the drive. The rack number is specified in octal and is set in the communications module.

5. In the **Enter Starting Group #** field, type the RIO starting group number of the drive. The RIO starting group number is set in the communications module. Valid numbers are 0, 2, 4, and 6.
6. Select **PLC Type**.
7. If you are using a 1395 drive, select **Use 1395 Protocol**.
8. Click **OK**.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Notes:

Setting Up DeviceNet Direct Communications

Chapter Objectives

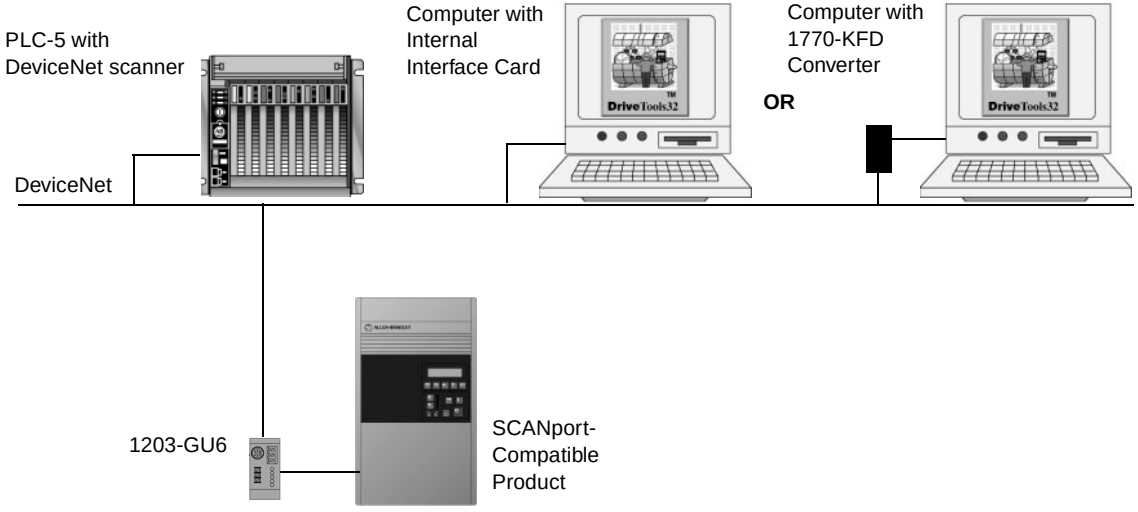
Chapter 9 provides instructions for using DriveTools32 with DeviceNet communications. In this chapter, you will read about the following:

- Required equipment and settings.
- Configuring RSLinx for DeviceNet direct communications.
- Configuring a DriveTools32 application for DeviceNet direct communications.
- Connecting to a drive.

About DeviceNet Communications

DeviceNet is an open, global, industry-standard communications network designed to provide an interface through a single cable from a programmable controller to smart devices such as drives. With DeviceNet direct communications, you access a drive over a DeviceNet network. Figure 9.1 shows an example:

Figure 9.1
DeviceNet Network



How you set up the hardware and configure RSLinx and DriveTools32 for DeviceNet communications depends on whether you are using an internal interface card or external converter.

Using:	Communications	Refer To:
Internal Interface Card (1784-PCD or -PCIDS)	DeviceNet Direct	"Setting Up DeviceNet Direct Communications" on page 9-2
External Converter (1770-KFD)	RS-232 Serial to DeviceNet	"Using RS-232 to DeviceNet Direct Communications" on page 9-8

Setting Up DeviceNet Direct Communications

DeviceNet Direct communications use an internal interface card (1784-PCD).

Important: If you are using an external converter, refer to "Using RS-232 to DeviceNet Direct Communications" on page 9-8.

Hardware

Required Hardware

The following hardware is required for a DeviceNet connection:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport-Compatible①	DeviceNet Adapter (1203-GK5, 1203-GU6, 1336-GM5, or 1336-GM6) and appropriate cable(s)	1784-PCD or -PCID

① For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Verify that the settings in your communications module are correct. Refer to the appropriate manual:

Communications Module	Refer To:
1203-GK5 or 1336-GM5	*Bulletin 1203 DeviceNet Communications Module User Manual*
1203-GU6 or 1336-GM6	*Enhanced DeviceNet Communications Module User Manual*

Important: If you are using a 1203-GK5 module or 1336-GM5 board, it must have firmware 2.001.

Configuring RSLinx

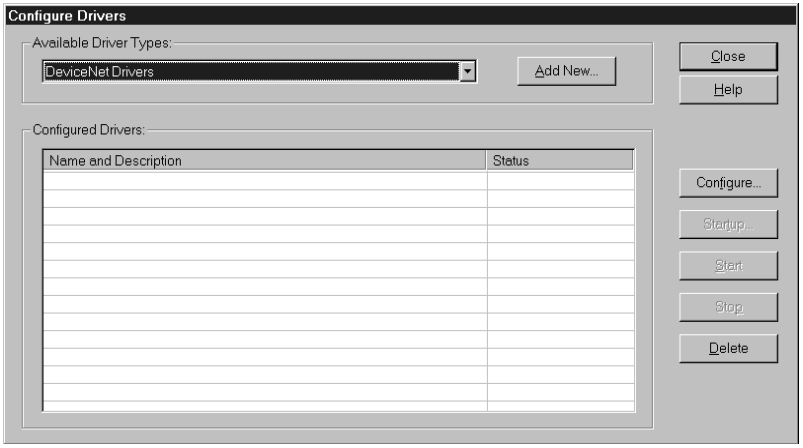
The following instructions describe how to configure RSLinx for DeviceNet communications. If you have questions about RSLinx, refer to its online help.

- Configure the communications driver.
- Map the configured driver to the KTPort Value.

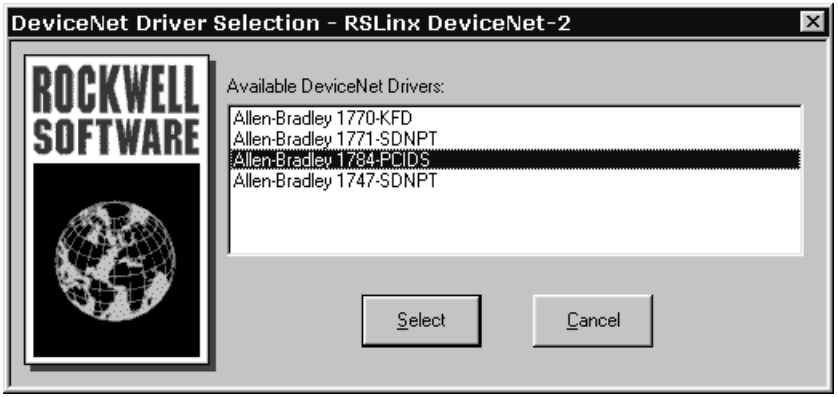
Configuring the Communications Driver

A driver is the software interface to the hardware device that allows RSLinx to communicate with your drive. To configure the driver, you need to:

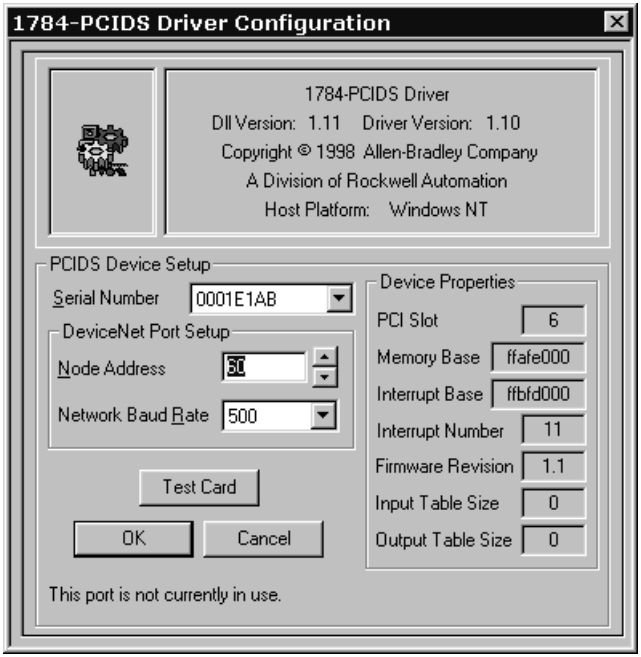
1. Start RSLinx.
2. In the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.



3. In the **Available Driver Types** field, select **DeviceNet Drivers**.
4. Click **Add New**. The **DeviceNet Driver Selection** dialog box appears.



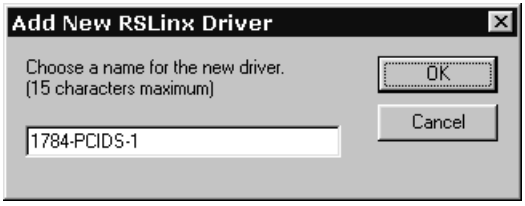
5. Double-click the **Allen-Bradley 1784-PCIDS**. The **1784-PCIDS Driver Configuration** dialog box appears.



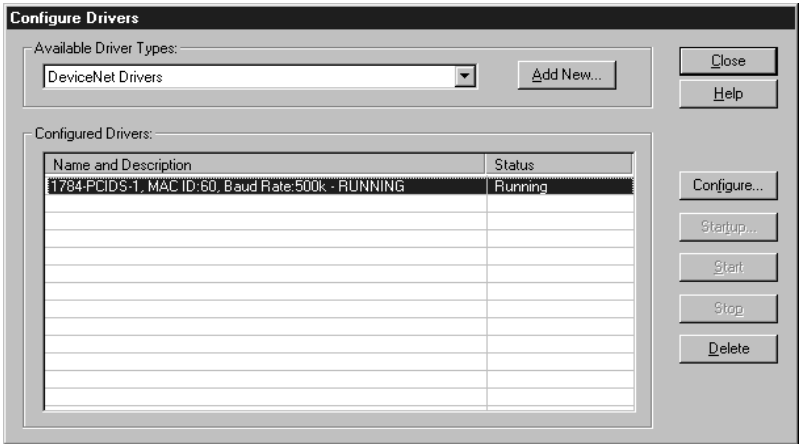
6. In the **Node Address** field, type a unique node address for your computer on the DeviceNet network.

7. In the **Network Baud Rate** field, select the baud rate that the DeviceNet network is using.

8. Click **OK** to configure the driver. The **Add New RSLinx Driver** dialog box appears.



9. Type a name for the driver, and then click **OK**. The new driver appears in the **Configure Drivers** dialog box.

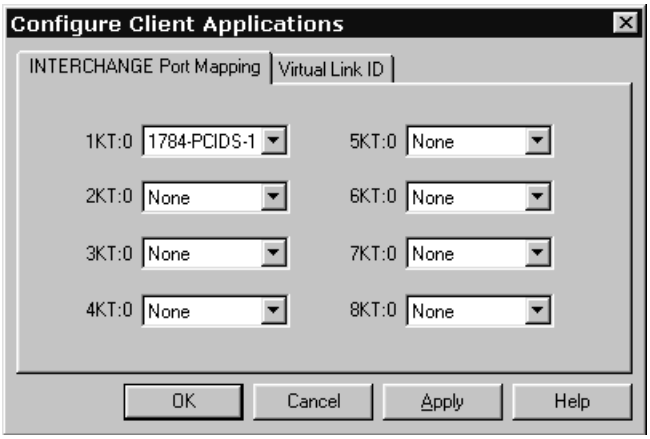


10. Click **Close**.

Mapping the Configured Driver to the KTPort Value

After configuring the driver, you must map it to a legacy INTERCHANGE API xKT:0 label in RSLinx. To map the configured driver, you need to:

1. In the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. In an unused **KT:0** field, select the DeviceNet driver.

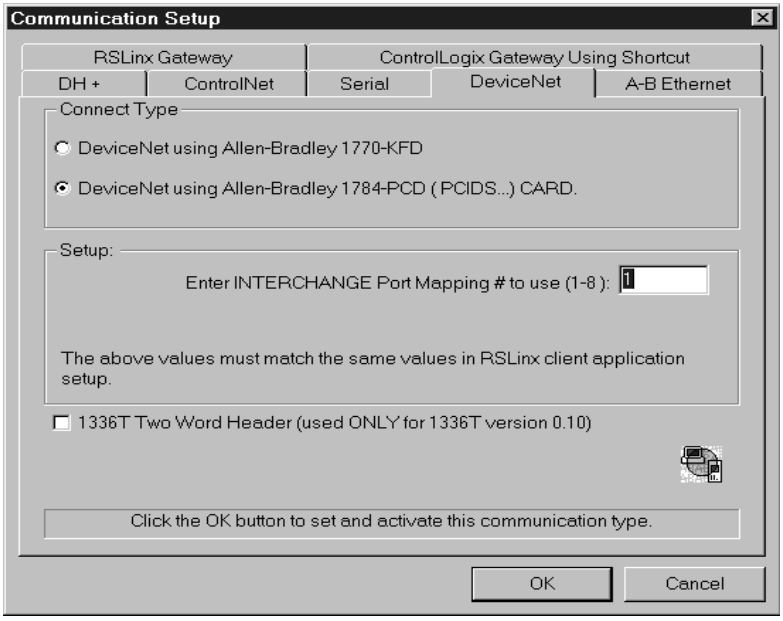
Important: Note the KT:0 field that you select. When you configure a DriveTools32 application, you need to enter the field number in the **Communication Setup** dialog box.

3. Click **OK**.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application. To do so, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.



3. Click the **DeviceNet** tab.
4. Under **Connect Type**, select **DeviceNet using Allen-Bradley 1784-PCD (PCIDS) CARD**.
5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the DeviceNet driver in the RSLinx **Configure Client Applications** dialog box.

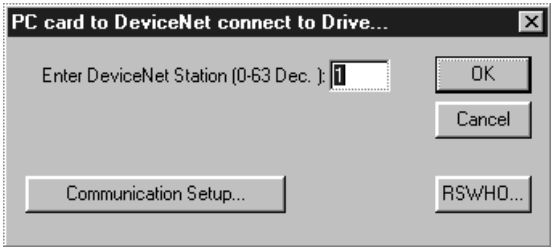
Important: To view the KT Port number used by the DeviceNet driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
7. Click **OK**.

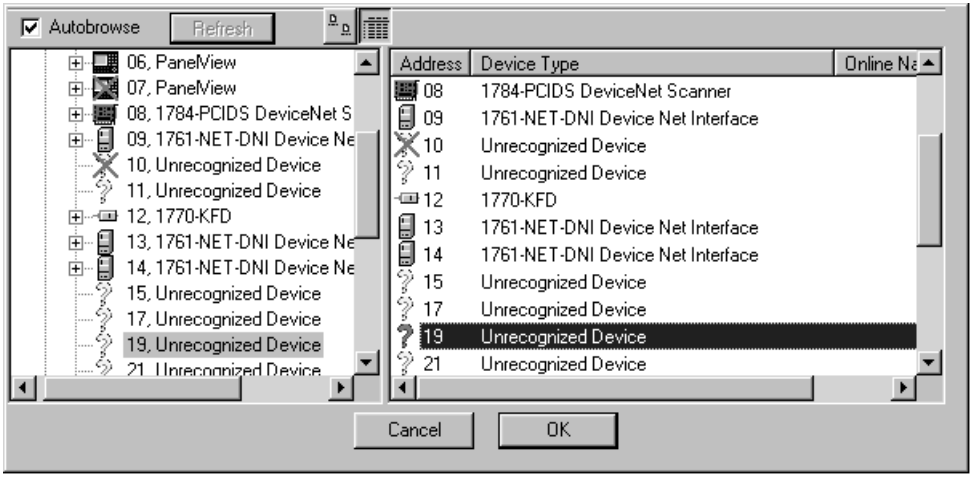
Connecting to the Drive

After RSLinx and the DriveTools32 application are configured, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **DeviceNet Network Connect to Drive** dialog box appears.



2. Click **RSWHO**. The **RSWHO** dialog box appears.



3. Navigate to the drive to which you want to connect. You can identify the drive by its node address. The RSWho dialog box may describe the drive as an “unrecognized device” because of its communication module.

4. Double-click on the drive.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Using RS-232 to DeviceNet Direct Communications

RS-232 to DeviceNet Direct communications use an external converter (1770-KFD).

If you are using an internal interface card, refer to "Setting Up DeviceNet Direct Communications" on page 9-2.

Hardware

Required Hardware

The following hardware is required for a DeviceNet connection:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport-Compatible[1]	DeviceNet Adapter (1203-GK5, 1203-GU6, 1336-GM5, or 1336-GM6) and appropriate cable(s)	1770-KFD

[1] For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Verify that the settings in your communications module are correct. Refer to the appropriate manual:

Communications Module	Refer To:
1203-GK5 or 1336-GM5	*Bulletin 1203 DeviceNet Communications Module User Manual*
1203-GU6 or 1336-GM6	*Enhanced DeviceNet Communications Module User Manual*

Important: If you are using a 1203-GK5 or 1336-GM5, it must have firmware 2.001 or greater.

Configuring RSLinx

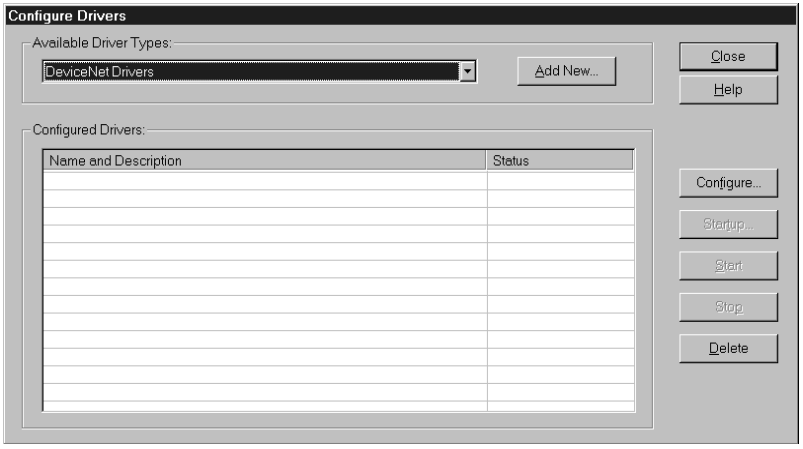
The following instructions describe how to configure RSLinx 2.xx for DeviceNet communications. If you have questions about RSLinx, refer to its online help.

- Configure the communications driver.
- Map the configured driver to the KTPort Value.

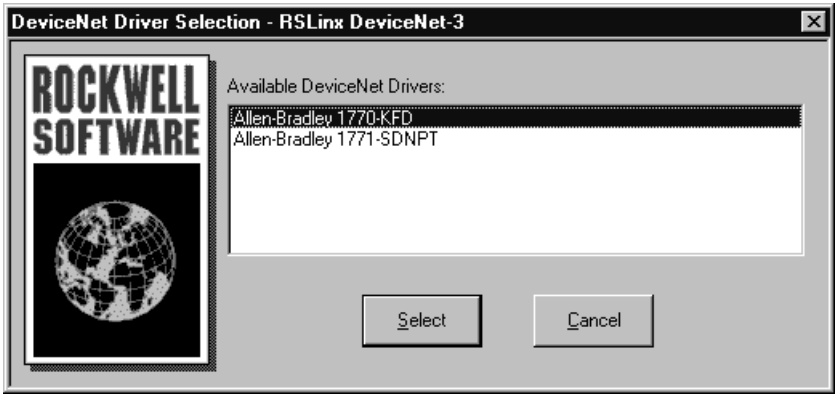
Configuring the Communications Driver

A driver is the software interface to the hardware device that allows RSLinx to communicate with your drive. To configure the driver, you need to:

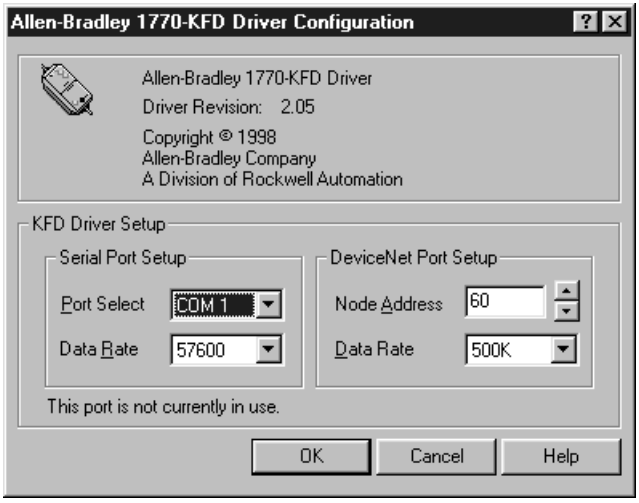
1. Start RSLinx.
2. In the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.



3. In the **Available Driver Types** field, select **DeviceNet Drivers**.
4. Click **Add New**. The **DeviceNet Driver Selection** dialog box appears.



5. Double-click the type of adapter that you are using to connect your computer to the DeviceNet network. A **Device Configuration** dialog box appears.

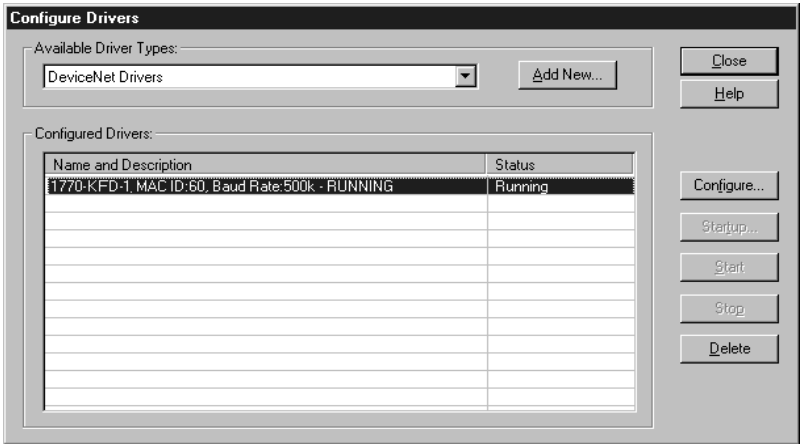


6. Under **Serial Port Setup**, select the communications port and the data rate that you are using in the computer.

7. Under **DeviceNet Port Setup**, select a unique node address for the computer on the DeviceNet network and the DeviceNet network data rate.

8. Click **OK** to configure the driver. The **Add New RSLinx Driver** dialog box appears.

9. Type a name, and then click **OK**. The new driver appears in the **Configure Drivers** dialog box.

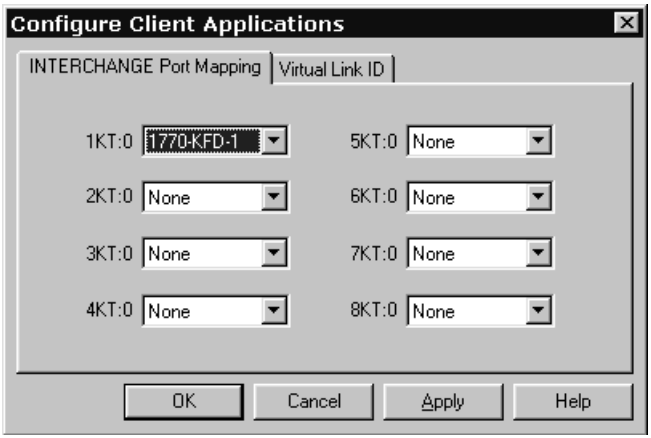


10. Click **Close**.

Mapping the Configured Driver to the KTPort Value

After configuring the driver, you must map it to a legacy INTERCHANGE API xKT:0 label in RSLinx. To map the configured driver, you need to:

1. In the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. In an unused **KT:0** field, select the DeviceNet driver.

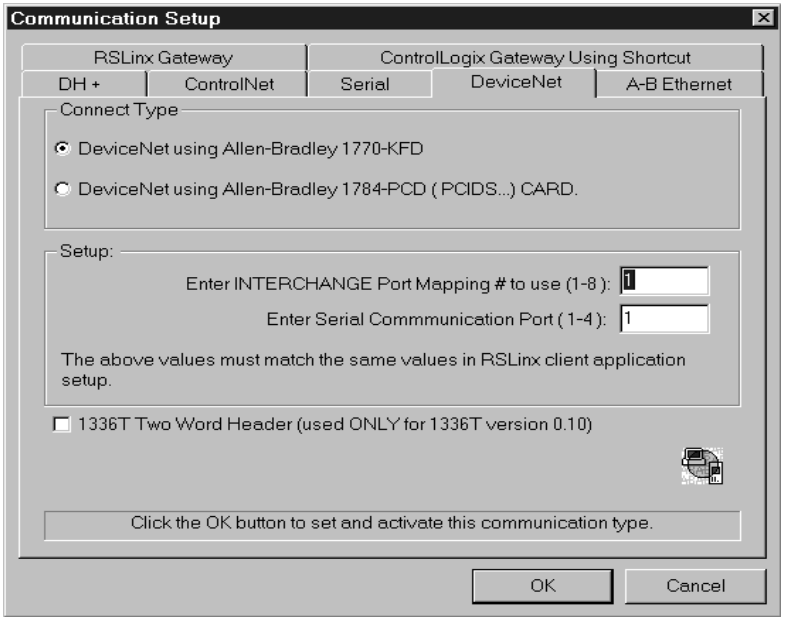
Important: Note the KT:0 field that you select. When you configure a DriveTools32 application, you need to enter the field number in the **Communication Setup** dialog box.

3. Click **OK**.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application. To do so, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
DeviceNet using Allen-Bradley 1770-KFD
DeviceNet using Allen-Bradley 1784-PCD (PCIDS...) CARD.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8):
1
Enter Serial Commmunication Port (1-4):
1
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header (used ONLY for 1336T version 0.10)
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **DeviceNet** tab.
4. Under **Connect Type**, select **DeviceNet using Allen-Bradley 1770-KFD**.
5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the DeviceNet driver in the RSLinx **Configure Client Applications** dialog box.

Important: To view the KT Port number used by the DeviceNet driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

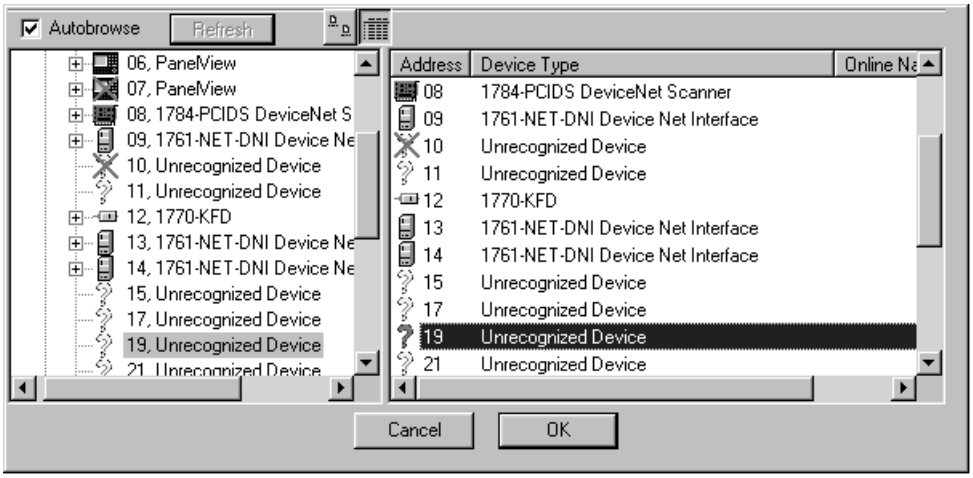
6. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
7. Click **OK**.

Connecting to the Drive

After RSLinx and the DriveTools32 application are configured, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **DeviceNet Network Connect to Drive** dialog box appears.

2. Click **RSWHO**. The **RSWHO** dialog box appears.



3. Navigate to the drive to which you want to connect.

4. Double-click on the drive.

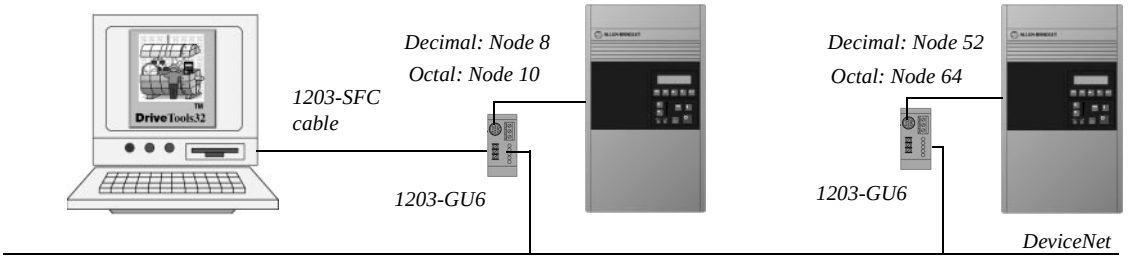
The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Using a 1203-GU6 Module to Connect to a DeviceNet Network

A1203-GU6 module lets you connect to a DeviceNet network via its serial port.

Figure 9.2
Connecting to a DeviceNet Network via a 1203-GU6 Module



Before using this type of connection, you must do the following:

- Note the station number of the module on the DeviceNet network. You can locate it by viewing *DN Node Address* (Parameter 2). Refer to the *Enhanced DeviceNet Communications Module User Manual* for information on viewing and editing parameters. **You must convert this value from the displayed decimal value to an octal value.** You can use the Windows Calculator program set in scientific mode to do the calculation.
- Note the serial baud rate of the module. View *Serial Port Rate* (Parameter 21) to find the baud rate. Refer to the *Enhanced DeviceNet Communications Module User Manual* for information on viewing and editing module parameters.

In RSLinx, you need to configure RS-232 point-to-point or multi-drop serial communications (Refer to Chapter 3). As you configure RSLinx, you must:

- Enter the correct station number as an octal value in the **Configure Allen-Bradley DF1 Communications Device** dialog box.
- Select the correct baud rate in the **Configure Allen-Bradley DF1 Communications Device** dialog box.

In a DriveTools32 application, you must set up RS-232 point-to-point communications (Refer to Chapter 3). As you configure the DriveTools32 application, you must:

- Enter the correct baud rate in the **Communication Setup** dialog box.
- Enter the station number to which you intend to connect as an octal value in the **SCANport Network Connect to Drive** dialog box.
- Note that you cannot use the **WHO** button if you are using a point-to-point connection.

Important: Verify that you have connected to the correct product before you use the DriveTools32 application to edit parameters or control the product.

Setting Up Allen-Bradley Ethernet to RIO Block Transfer Pass Thru Communications

Chapter Objectives

Chapter 10 provides information for using DriveTools32 with Allen-Bradley Ethernet to RIO block transfer (BT) pass thru communications. In this chapter, you will read about the following:

- Required equipment and settings.
- Configuring RSLinx for Ethernet to RIO Block Transfer Pass Thru communications.
- Configuring a DriveTools32 application for Ethernet to RIO Block Transfer Pass Thru communications.
- Connecting to a drive.

About Ethernet Communications

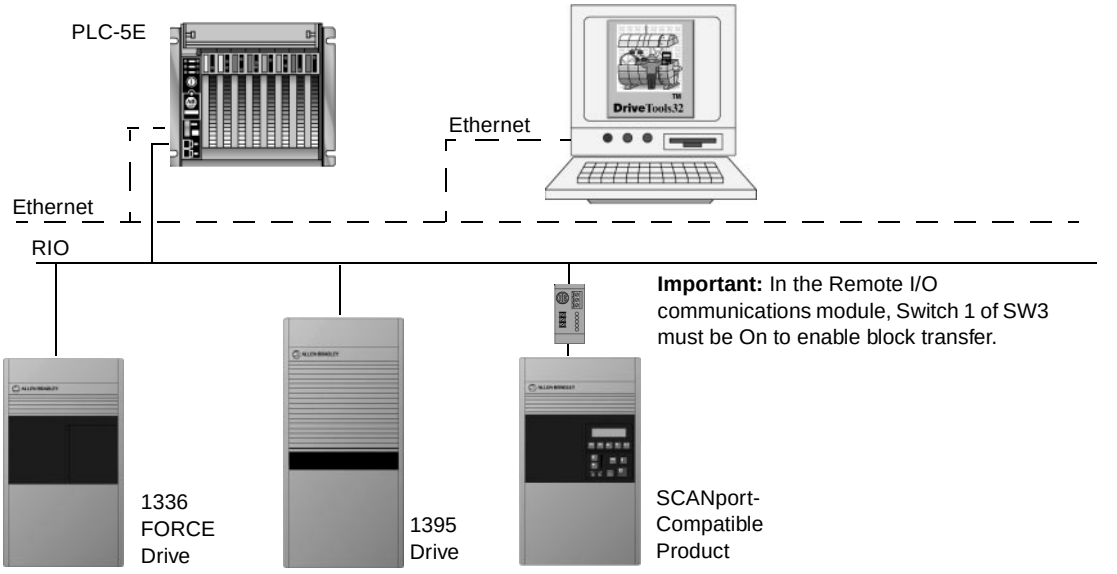
Ethernet is a local area network (LAN) that provides non-deterministic data transport. With Ethernet to RIO Block Transfer Pass Thru communications, you access a controller over the Ethernet network, and then you access a drive connected to that controller on an RIO network. The RIO Block Transfer Pass Thru mechanism requires that a drive be connected to a controller (PLC-5E or SLC 5/05) over the RIO network and that block transfer is enabled.

When you use RIO Block Transfer Pass Thru communications, note:

- You cannot use DriveBlockEditor32 and the control features in DrivePanel32.
- You cannot use DriveMonitor32 to monitor parameters and data in a drive on an RIO network; however, you can use it to monitor parameters and data in the controller.
- You may observe that communications are slow. RIO Block Transfer Pass Thru communications to drives can take 2 seconds per point.

Figure 10.1 shows an example:

Figure 10.1
Allen-Bradley Ethernet Communications



Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport Product①	Remote I/O adapter (1203-GD1, 1203-GK1, or 1336-GM1) and appropriate cable(s)	Ethernet Interface Running TCP/IP Protocol
1336 FORCE	PLC Communications Board (1336T-GT1EN)	Ethernet Interface Running TCP/IP Protocol
1395	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	Ethernet Interface Running TCP/IP Protocol

① For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Ensure that an Ethernet card running TCP/IP is correctly installed.
- Ensure that block transfer is enabled in your adapter. If you are using a 1203-Gx1 or 1336-GM1 module, switch 1 on SW3 must be ON.

Important: Ensure that the ladder logic program and controller configuration reflect the image table with Block Transfer enabled.

- Note the Remote I/O adapter settings. You need to specify the rack and group number when configuring a DriveTools32 application.

If Using:	Refer To:
Remote I/O Adapter (1203-GD1, 1203-GK1 or 1336-GM1) and appropriate cable(s)	*Bulletin 1203 Remote I/O Communications Module User Manual*
PLC Communications Adapter Board (1336T-GT1EN)	*1336 FORCE PLC Communications Adapter User Manual*
Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	*Bulletin 1395 Multi-Communications Board Hardware/ Software Reference Manual*

- Ensure that the controller connected to the drive is not using any Block Transfer instructions addressed to the drive in its ladder logic program.
- Ensure that the controller connected to the drive is in RUN mode. If the PLC is not in RUN mode, pass thru messages cannot be delivered to the connected drive product.

Configuring RSLinx

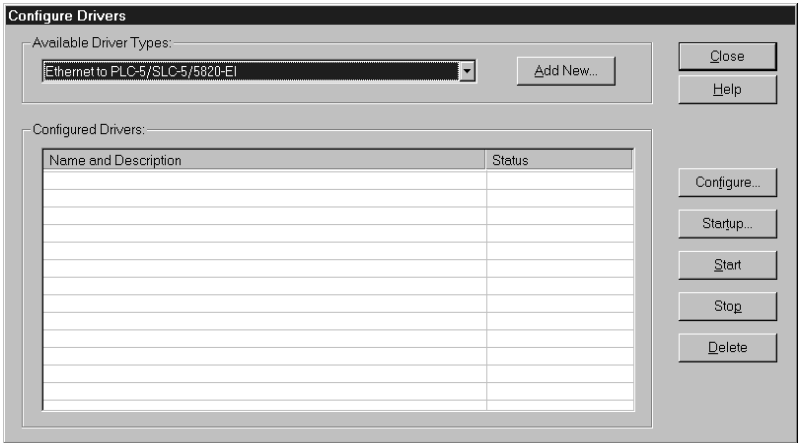
The following instructions describe how to configure RSLinx for Ethernet communications. If you have questions about RSLinx, refer to its online help.

To use RSLinx for Ethernet communications, you need to configure the communications driver.

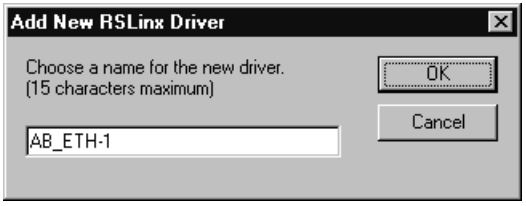
Configuring the Communications Driver

A driver is the software interface to the hardware device that allows RSLinx to communicate with your drive. To configure the driver, you need to:

1. Start the RSLinx application.
2. In the **Communications** menu, select **Configure Driver Types**. The **Configure Drivers** dialog box appears.

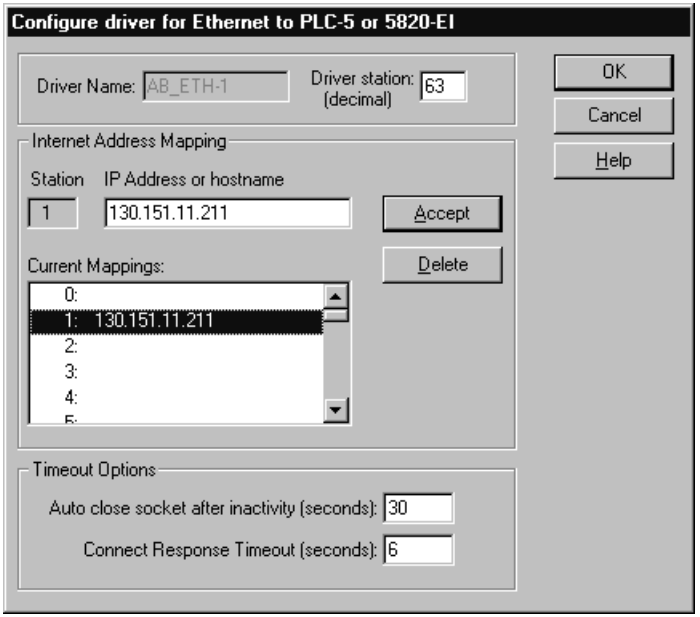


3. In the **Available Driver Types** field, select **Ethernet to PLC5 or 5820-El**.
4. Click **Add New**. The **Add New RSLinx Driver** dialog box appears.



5. Type a name for the driver, and then click **OK**.

The **Configure driver for Ethernet to PLC-5 or 5820-EL** dialog box appears.

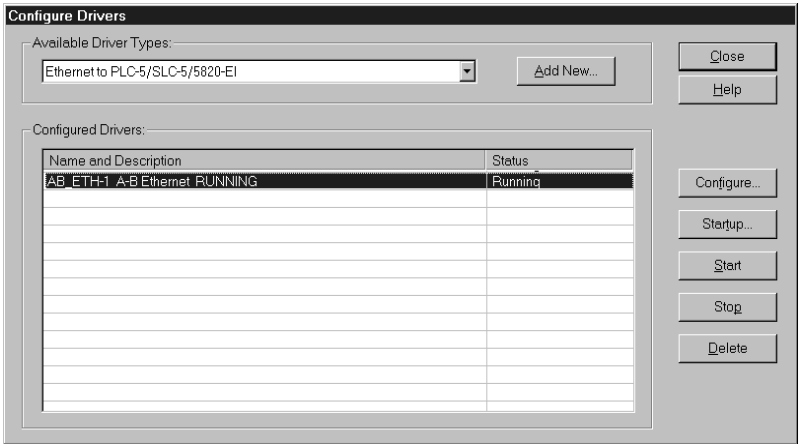


6. In the **Driver Station** field, enter a unique station number for your computer on the Ethernet network. Valid numbers are from 0 to 63.
7. In the **Current Mappings** field, select an available mapping.
8. In the **IP Address or hostname** field, type the IP address or hostname of the controller.

Important: Note the IP address. When you configure a DriveTools32 application, you need to enter it in the **Communications Setup** dialog box.

9. Click **Accept** to map the IP address to an available mapping.

10. Click **OK** to configure the driver. The new driver appears in the **Configure Drivers** dialog box.



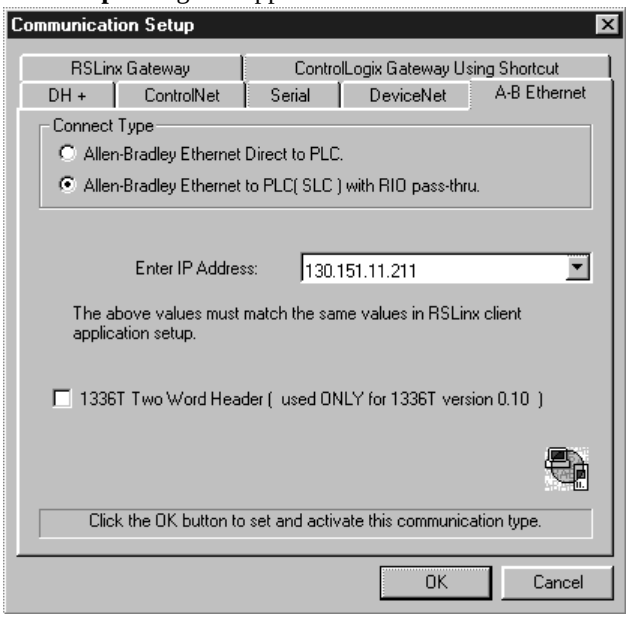
11. Click **Close**.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application. To do so, you need to:

1. Start a DriveTools32 application.

2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
Allen-Bradley Ethernet Direct to PLC.
Allen-Bradley Ethernet to PLC(SLC) with RIO pass-thru.
Enter IP Address:
130.151.11.211
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header (used ONLY for 1336T version 0.10)
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click **A-B Ethernet**.

4. Under **Connect Type**, select **Allen-Bradley Ethernet to PLC (SLC) with RIO pass-thru**.

Important: If you are running DriveMonitor32, you can access a PLC by selecting **Allen-Bradley Ethernet Direct to PLC**.

5. In the **Enter IP Address** field, type the same IP address entered in the **Configure driver for Ethernet to PLC-5 or 5820** dialog box.
6. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
7. Click **OK**. The following prompt appears.

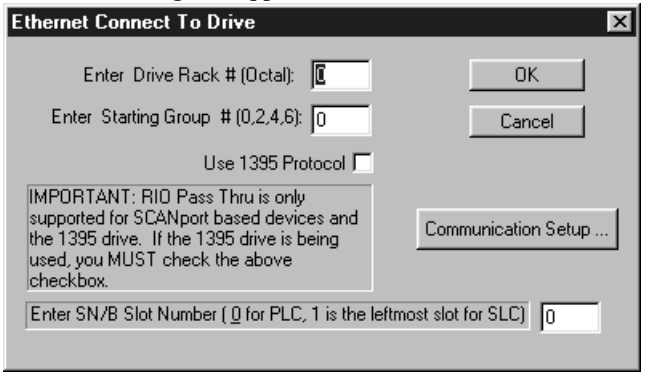
RIO COMMUNICATIONS
ATTENTION :
When using BT RIO Pass Thru for drive communications from the PC, you CANNOT use BT messaging in the PLC program for this drive!!!
OK
Cancel

8. Read the information, and then click **OK**.

Connecting to the Drive

After configuring RSLinx and the DriveTools32 application, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **Ethernet Connect to Drive** dialog box appears.


Ethernet Connect To Drive
Enter Drive Rack # (Octal):
0
Enter Starting Group # (0,2,4,6):
0
Use 1395 Protocol
OK
Cancel
IMPORTANT: RIO Pass Thru is only supported for SCANport based devices and the 1395 drive. If the 1395 drive is being used, you MUST check the above checkbox.
Communication Setup ...
Enter SN/B Slot Number (0 for PLC, 1 is the leftmost slot for SLC)
0

2. In the **Enter Drive Rack #** field, type the RIO rack number of the drive. The rack number is specified in octal and is set in the communications module.

3. In the **Enter Starting Group #** field, type the RIO starting group number of the drive. The RIO starting group number is set in the communications module. Valid numbers are 0, 2, 4, and 6.
4. If you are using a 1395 drive, click **Use 1395 Protocol**.
5. In the **Enter SN/B Slot Number** field, type the scanner slot number. Type 0 if you are using a PLC. Type the appropriate slot number if you are using an SLC.
6. Click **OK**.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Using RSLinx Gateways

Chapter Objectives

Chapter 11 provides instructions for using DriveTools32 with RSLinx gateways from a client computer. In this chapter, you will read about the following:

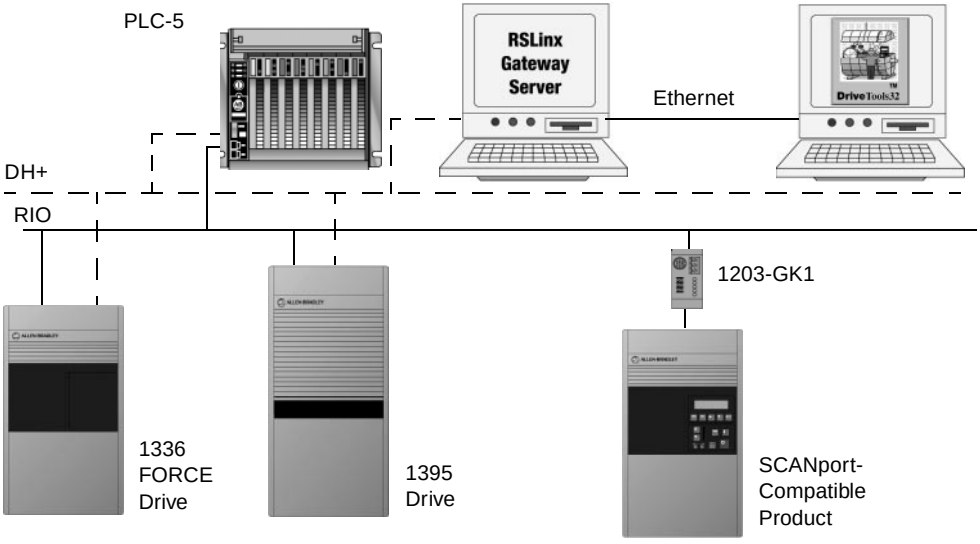
- Required equipment and settings.
- Configuring RSLinx for RSLinx gateway communications.
- Configuring a DriveTools32 application for gateway communications.
- Connecting to a drive.

Important: This chapter assumes that your server is already set up. It does not provide instructions for setting up a server.

About RSLinx Gateways

An RSLinx gateway lets you communicate between networks. For example, you use your computer on an Ethernet network to access another computer on the Ethernet network. Through it, you can access a controller on a DH+ network and then a drive connected to the controller. Figure 11.1 shows an example:

Figure 11.1
RSLinx Gateway to a DH+ to RIO Block Transfer Pass Thru Communications



Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Gateway to:	Required Drive Hardware	Required Computer Hardware
SCANport-Compatible[1]	DH+ to RIO Block Transfer Pass Thru	Remote I/O Adapter (1203-GD1, 1203-GK1 or 1336-GM1) and appropriate cable(s)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK
	ControlNet Direct	ControlNet Adapter (1203-CN1) and appropriate cables	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KTC, -KTCX, or -PCC
	RS-232 Serial Point-to-Point	Serial Adapter(1203-SSS, 1203-GD2, 1203-GK2, or 1336-GM2) and appropriate cable(s)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KTx, -KL, or -PCMK
1336 FORCE	DH+ Direct	PLC Communications Adapter Board (1336T-GT1EN)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK
	DH+ to RIO Block Transfer Pass Thru	PLC Communications Adapter Board (1336T-GT1EN)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK
	ControlNet Direct	ControlNet Adapter Board (1336T-GT3EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KTC, -KTCX, or -PCC
	RS-232 Serial Point-to-Point	Serial Adapter(1203-SSS, 1203-GD2, 1203-GK2, or 1336-GM2) and appropriate cable(s)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and RS-232 port
1395	DH+ Direct	Multi-Communications Adapter (1395-KP51)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK
	DH+ to RIO Block Transfer Pass Thru	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK
	ControlNet Direct	ControlNet Adapter Board (1395-KP54EN), ControlNet Repeater Adapter (1786-RPA), and ControlNet Fiber Module (1786-RPFM)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KTC, -KTCX, or -PCC
A-B Stromberg	DH+ Direct	3500-TBX card (147096 or 157676)	**Client:** Ethernet Interface Running TCP/IP **Server:** Ethernet Interface Running TCP/IP and 1784-KT, -KTX, -KTXD, or -PCMK

[1] For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Ensure that an Ethernet card running TCP/IP is correctly installed in your computer.
- Ensure that you are logged on to your local area network.

Configuring RSLinx

The following instructions describe how to configure RSLinx for gateway communications. If you have questions about RSLinx, refer to its online help.

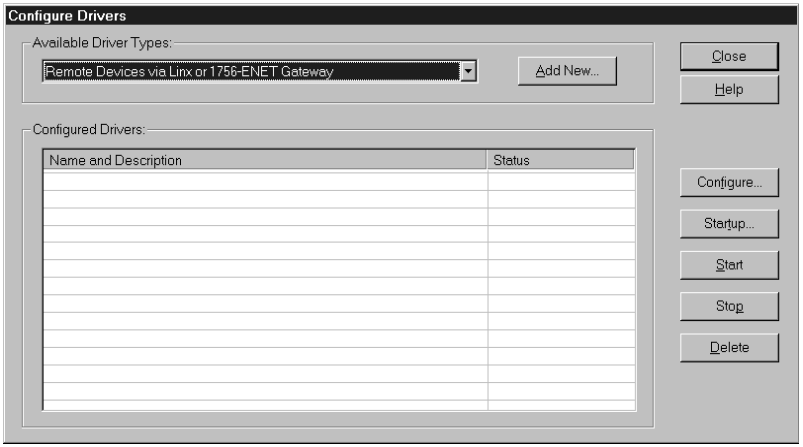
To use RSLinx for an RSLinx Gateway communications, you need to:

- Configure the communications driver.
- Map the configured driver to the KTPort Value.

Configuring the Communications Driver

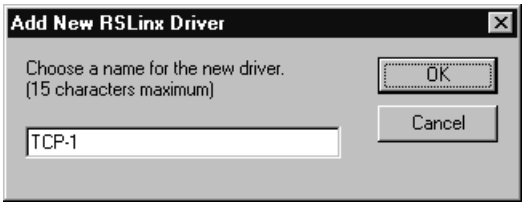
A driver is the software interface to the hardware device that allows RSLinx to communicate with your drive. To configure the driver, you need to:

1. Start RSLinx.
2. In the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.

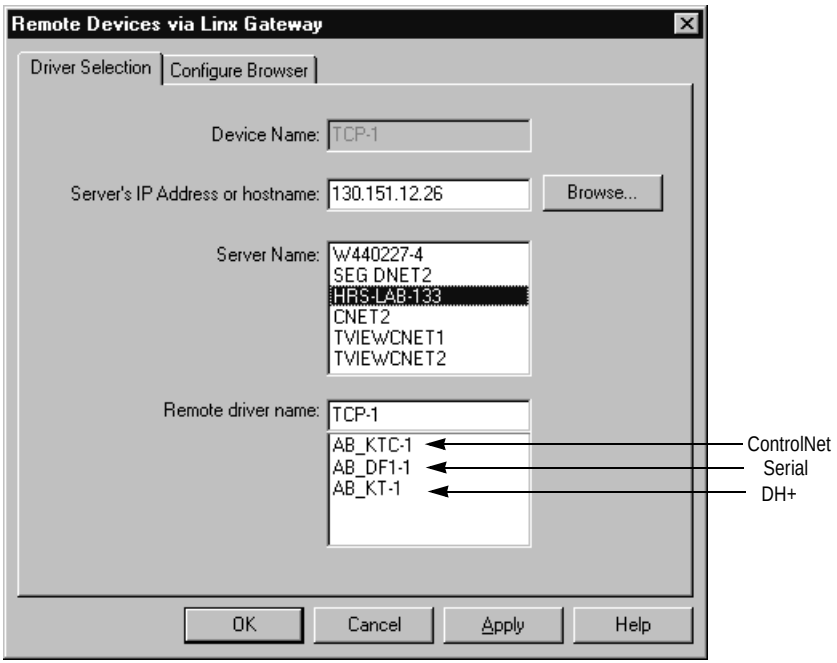


3. In the **Available Driver Types** field, select **Remote Devices via Linx Gateway**.

4. Click **Add New**. The **Add New RSLinx Driver** dialog box appears.



5. Type a name, and then click **OK**. The **Remote Devices via Linx Gateway** dialog box appears.

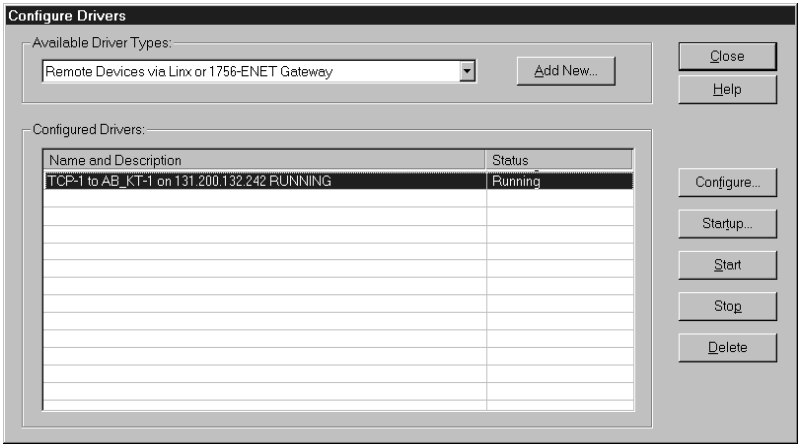


6. In the **Server Name** list, select the server to which you want to connect. A list of Remote driver names appears.

7. In the **Remote driver name** list, select the driver for the network to which you want to connect.

To connect to:	Select:
ControlNet	AB_KTC
DH+	AB_KT
Serial	AB_DF1

8. Click **OK** to configure the driver. The new driver appears in the **Configured Drivers** dialog box.

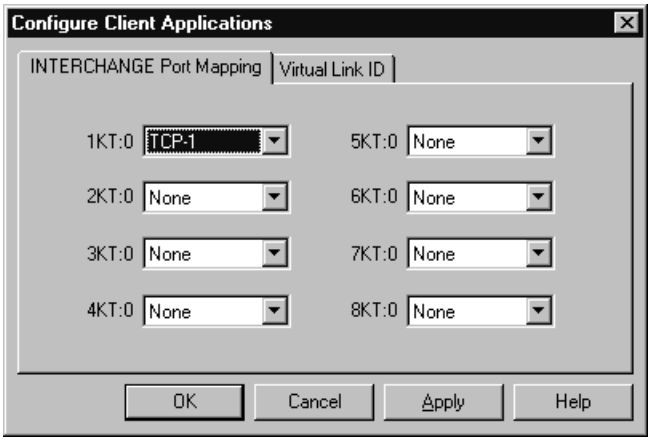


9. Click **Close**.

Mapping the Configured Driver to the KTPort Value

After configuring the driver, you must map it to a legacy INTERCHANGE API xKT:0 label in RSLinx so that DriveTools32 can use it.

1. In the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. In an unused **KT:0** field, select the TC P driver.

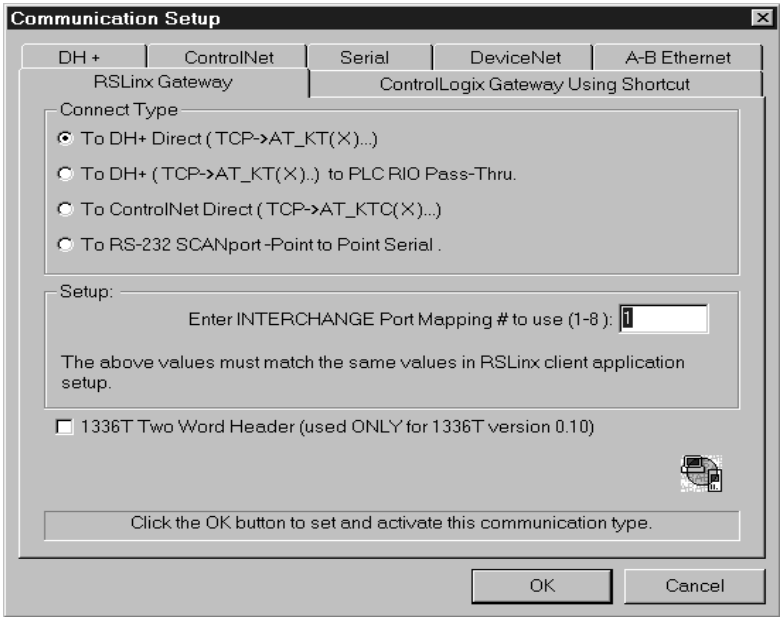
Important: Note the KT:0 field that you select. When you configure a DriveTools32 application, you need to enter the field number in the **Communication Setup** dialog box.

3. Click **OK**.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application. To do so, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
RSLinx Gateway
ControlLogix Gateway Using Shortcut
Connect Type
To DH+ Direct (TCP->AT_KT(X)...)
To DH+ (TCP->AT_KT(X)..) to PLC RIO Pass-Thru.
To ControlNet Direct (TCP->AT_KTC(X)...)
To RS-232 SCANport -Point to Point Serial .
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8):
1
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header (used ONLY for 1336T version 0.10)
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **RSLinx Gateway** tab.
4. Under **Connect Type**, select the appropriate communications type.

If your Gateway is to:	Select:
ControlNet	To ControlNet Direct
DH+ Direct	To DH+ Direct
DH+ to RIO Block Transfer Pass Thru	To DH+ to PLC RIO Pass-Thru
Serial	To RS-232 SCANport Point to Point Serial

5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the gateway driver in the RSLinx **Configure Client Applications** dialog box.

Important: To view the KT Port number used by the gateway driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.

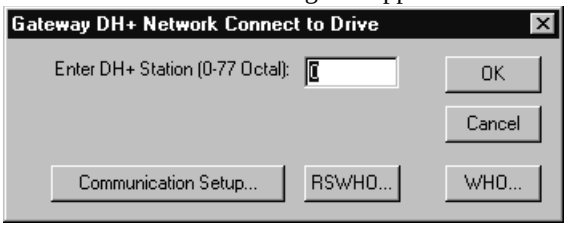
Important: If a prompt regarding RIO Pass Thru communications appears, read the information, and then click **OK**.

7. Click **OK**.

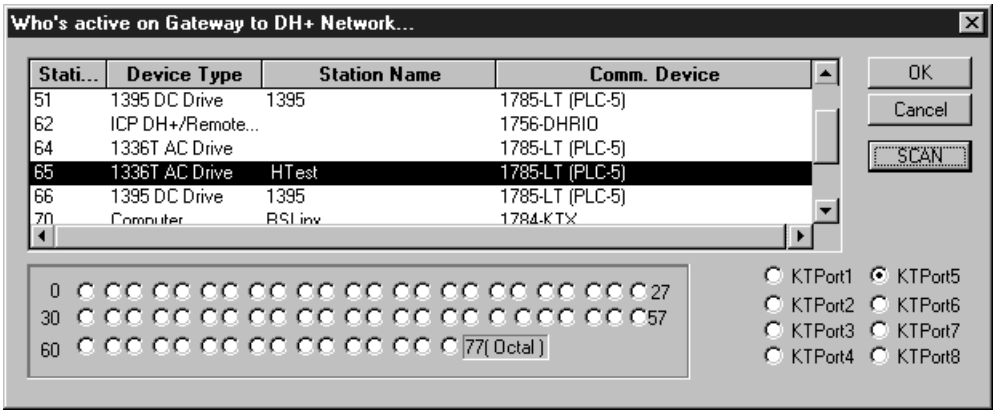
Connecting to the Drive

After configuring RSLinx and the DriveTools32 application, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. A **Gateway Network Connect to Drive** dialog box appears.



2. Click **WHO**. A **Network WHO** dialog box appears.



3. Double-click the drive or controller (PLC or SLC) to which you want to connect.

4. Click **OK**. One of the following occurs:

Result	Action
Connected to a drive	You are ready to use the DriveTools32 application
Connect to Drive dialog box reappears	You are using RIO block transfer pass thru communications. Go to Step 5.

5. If you are using RIO block transfer pass thru communications, you must type the rack number and group number in the appropriate fields, and then click **OK**. In addition, you must ensure that block transfer has been enabled in the end device.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Using a Modem Connection

Chapter Objectives

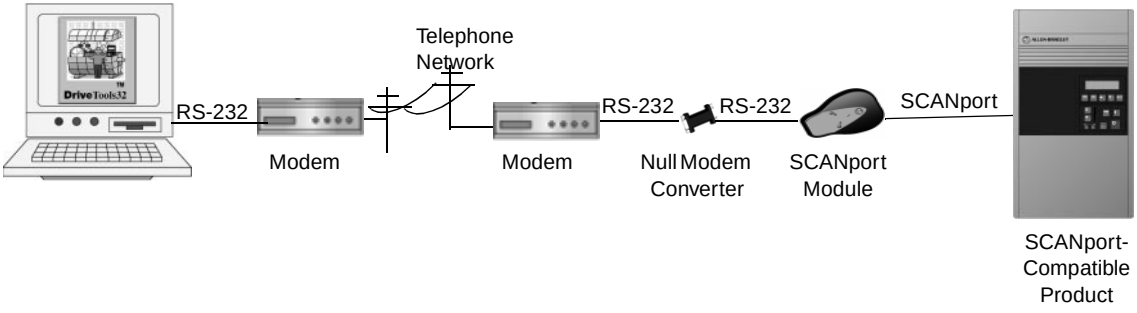
Chapter 12 provides instructions for using DriveTools32 with a modem connection. In this chapter, you will read about the following:

- Required equipment and settings.
- Configuring RSLinx for modem communications.
- Configuring a DriveTools32 application for modem communications.
- Connecting to a drive.

About Modem Connections

A modem connection extends RS-232 serial communications over a telephone line. With a modem connection, you can access a drive from a remote location. Figure 12.1 shows an example:

Figure 12.1
Modem Connection



ATTENTION: Hazard of injury or death exists. The Start/Stop/Jog functions of DrivePanel32 software rely on the integrity of software and communications between the drive and computer. A software malfunction or loss of communications may result in the inability to stop the drive using DrivePanel32. You **must** configure an adapter time-out (when prompted) and have an independent hardwired stop device within reach when using DrivePanel32 to control a drive. DrivePanel32 is not a substitute for primary operator controls that meet industry standards and local codes.

Hardware

Required Hardware

The following hardware is required for a modem connection:

Drive	Required Hardware for the SCANport product	Required Hardware for the Computer
SCANport-Compatible	SCANport Adapter (1203-SSS, 1203-GD2, 1203-GK2, 1336-GM2, 1203-CN1, or 1203-GU6), appropriate cable(s), null modem converter (1203-SNM), and modem	RS-232 port and modem②
160 Drive	160-RS1 Serial Adapter, appropriate cable(s), null modem converter (1203-SNM), and modem	RS-232 port and modem②

① For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

② We recommend using the 1747-CH0RAD modem kit. Use other modems at your own risk.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Ensure that your serial communications module settings are correct. In most cases, you should use the factory-set defaults. If you decide to change the default settings, note the new settings because you need to know them when you configure RSLinx and DriveTools32. Refer to the appropriate manuals.

Important: If you are using a 1203-GD2 serial communications module, its firmware must be release 2.04 or higher. If you use an earlier version, all parameters may not be shown.

- Ensure that the modem is set up and configured correctly. We recommend using the 1747-CH0RAD. Information about setting it up and configuring it can be found in the *Remote Access Tutorial* CD-ROM. If you use this modem, ensure that it is set to use the “DTR is forced” setting at all times. Also, the following commands must be sent to the remote modems:

  AT@Q0
  ATQ1
  AT&W

Configuring RSLinx

The following instructions describe how to configure RSLinx for RS-232 point-to-point serial communications with a modem. If you have questions about RSLinx, refer to its online help.

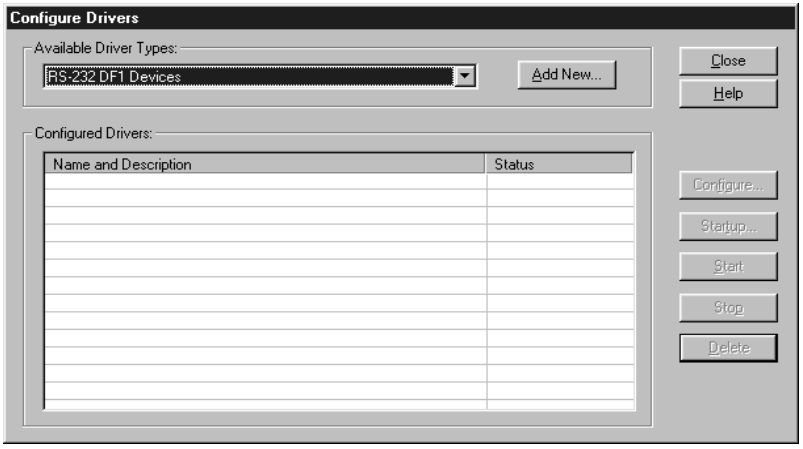
To use RSLinx with a modem communications, you need to:

- Configure the communications driver.
- Map the configured driver to a KTPort Value.

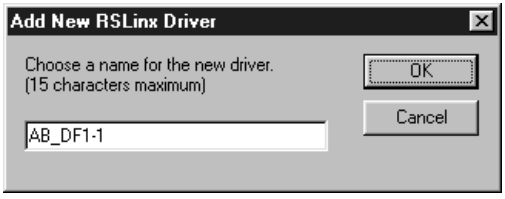
Configuring the Communication Driver

A driver is the software interface to the hardware device that allows RSLinx to communicate with your drive. To configure the driver, you need to:

1. Start RSLinx.
2. In the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.

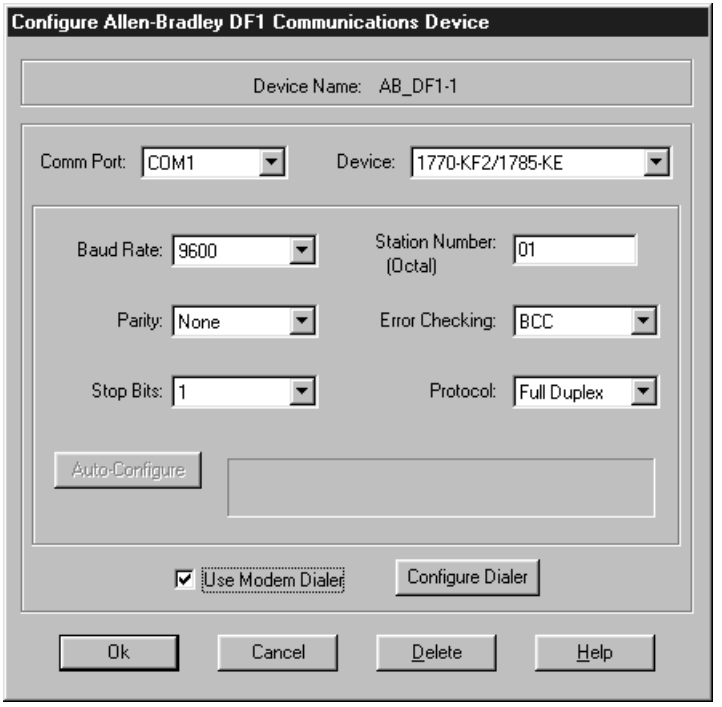


3. In the **Available Driver Types** field, select **RS-232 DF1 Devices**.
4. Click **Add New**. The **Add New RSLinx Driver** dialog box appears.



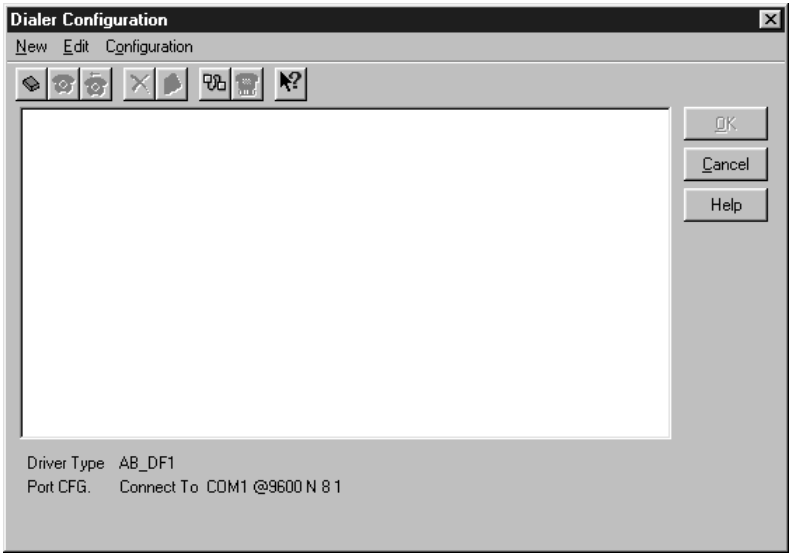
5. Click **OK** to accept the default name. The **Configure Allen-Bradley DF1 Communications Device** dialog box appears.

Important: Do NOT use the AutoConfigure button to set the settings for this driver. This command does not work with a modem.

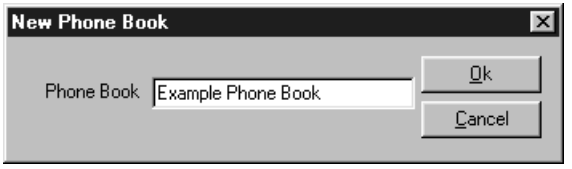


6. In the **Comm Port** field, select the communications port that your computer is using to access the modem.
7. In the **Device** field, select **1770-KF2/1785-KE**.
8. In the **Station Number** field, type your SCANport communications module station number.
9. In the **Baud Rate** field, select the baud rate at which your computer, modems, and communications module are operating.
10. Select **Use Modem Dialer**. A check mark will appear.

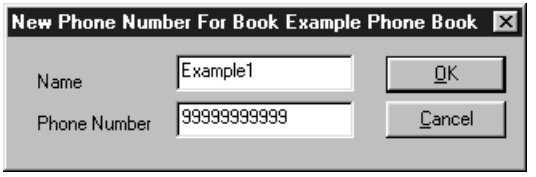
11. Click **Configure Dialer**. The **Dialer Configuration** dialog box appears.



12. In the **New** menu, select **Phone Book**. The **New Phone Book** dialog box appears.

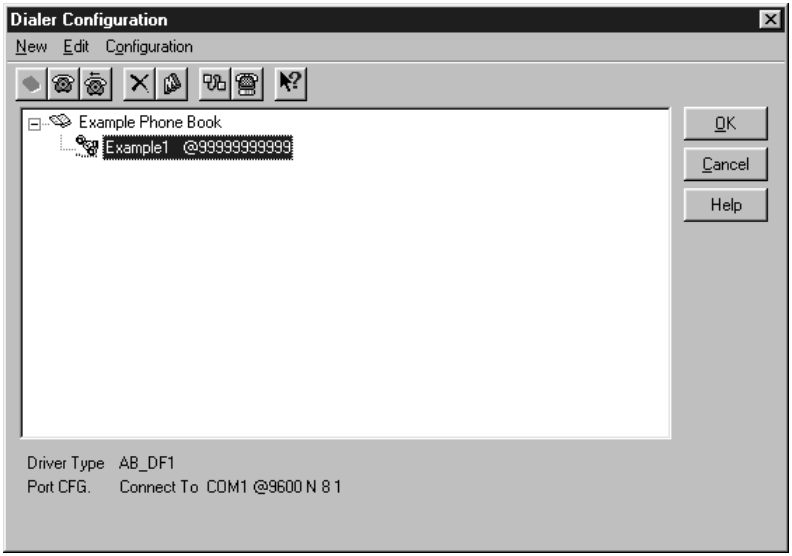


13. Type a name for the phone book, and then click **Next**. The **New Phone Number** dialog box appears.



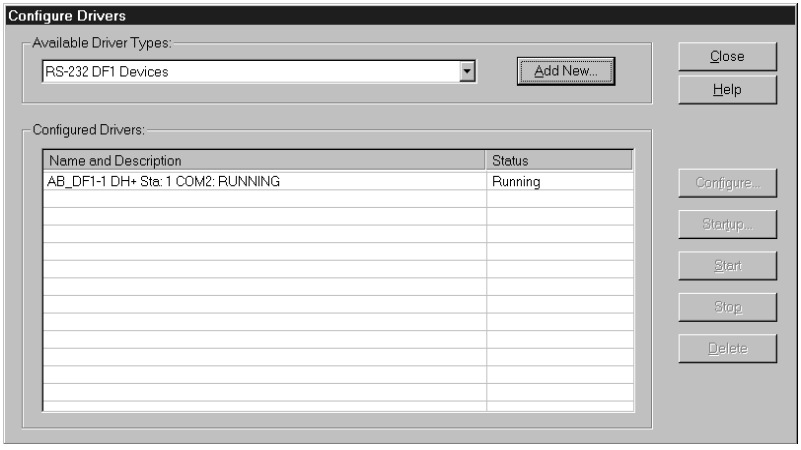
14. Type a name and a phone number, and then click **OK**.

The phone number appears in the **Dialer Configuration** dialog box.



15. Click **OK** to save the phone number. The **Configure Allen-Bradley DF1 Communications Device** dialog box reappears.

16. Click **OK** to save the configuration. The new driver appears in the **Configure Drivers** dialog box.

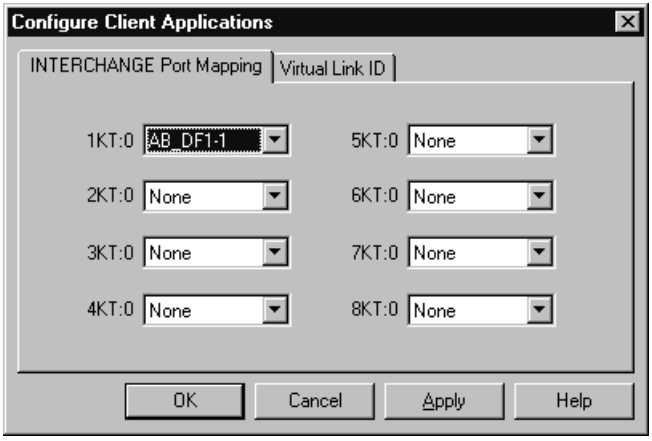


17. Click **Close**.

Mapping the Configured Driver to the KTPort Value

After configuring the driver, you must map it to a legacy INTERCHANGE API xKT:0 label in RSLinx so that DriveTools32 can use it. To map the configured driver, you need to:

1. In the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. In an unused **KT:0** field, select the DF1 device.

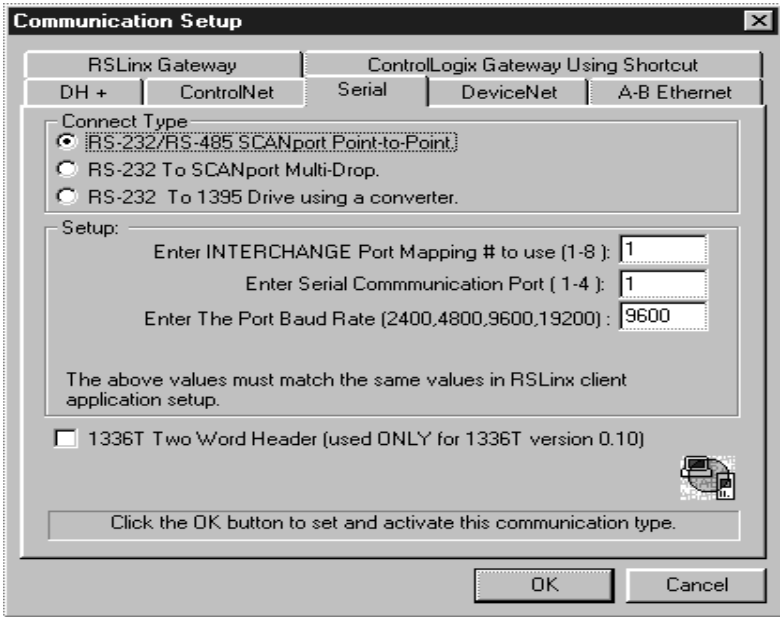
Important: Note the KT:0 field that you select. When you configure a DriveTools32 application, you need to enter the field number in the **Communication Setup** dialog box.

3. Click **OK** to map the driver to the KT:0 value.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application. To do so, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
RSLinx Gateway
ControlLogix Gateway Using Shortcut
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
Connect Type
RS-232/RS-485 SCANport Point-to-Point
RS-232 To SCANport Multi-Drop.
RS-232 To 1395 Drive using a converter.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8): 1
Enter Serial Commmunication Port (1-4): 1
Enter The Port Baud Rate (2400,4800,9600,19200) : 9600
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header (used ONLY for 1336T version 0.10)
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **Serial** tab.
4. Under **Connect Type**, select **RS-232/RS-485 SCANport Point-to-Point**.
5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the DF1 driver in the RSLinx **Configure Client Applications** dialog box.

Important: To view the KT Port number used by the DF1 driver, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. In the **Enter Serial Communication Port** field, type the PC serial communications port number that is being used. You must use the same communications port for which RSLinx is configured.
7. In the **Enter The Port Baud Rate** field, type the baud rate that your communications module and port are using.

8. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.

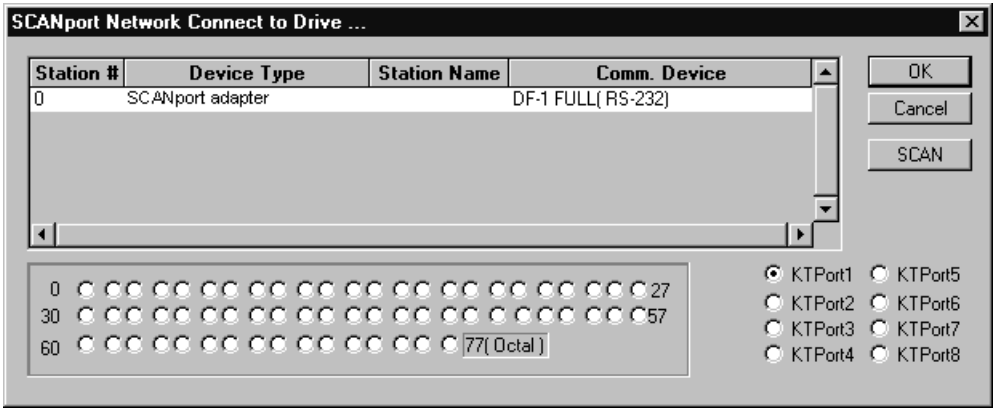
9. Click **OK** to save the configuration.

Connecting to the Drive

After configuring RSLinx and the DriveTools32 application, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **SCANport Network Connect to Drive** dialog box appears.

2. Click **WHO**. The **SCANport Network Connect to Drive WHO** dialog box appears.



3. Double-click the station to which you want to connect.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Notes:

Using ControlLogix Gateways

Chapter Objectives

Chapter 13 provides instructions for using DriveTools32 with ControlLogix gateways. In this chapter, you will read about the following:

- Required equipment and settings.
- Configuring RSLinx for ControlLogix gateway communications.
- Configuring a DriveTools32 application for ControlLogix gateway communications.
- Connecting to a drive.

The control functions on DrivePanel32 are disabled when you use this type of communications system.

About ControlLogix Gateways

With ControlLogix gateway connections, you use a ControlLogix controller as a bridge between networks. The networks to which you can connect depend on the scanners connected to the controller. ControlLogix controllers may have scanners for the following networks:

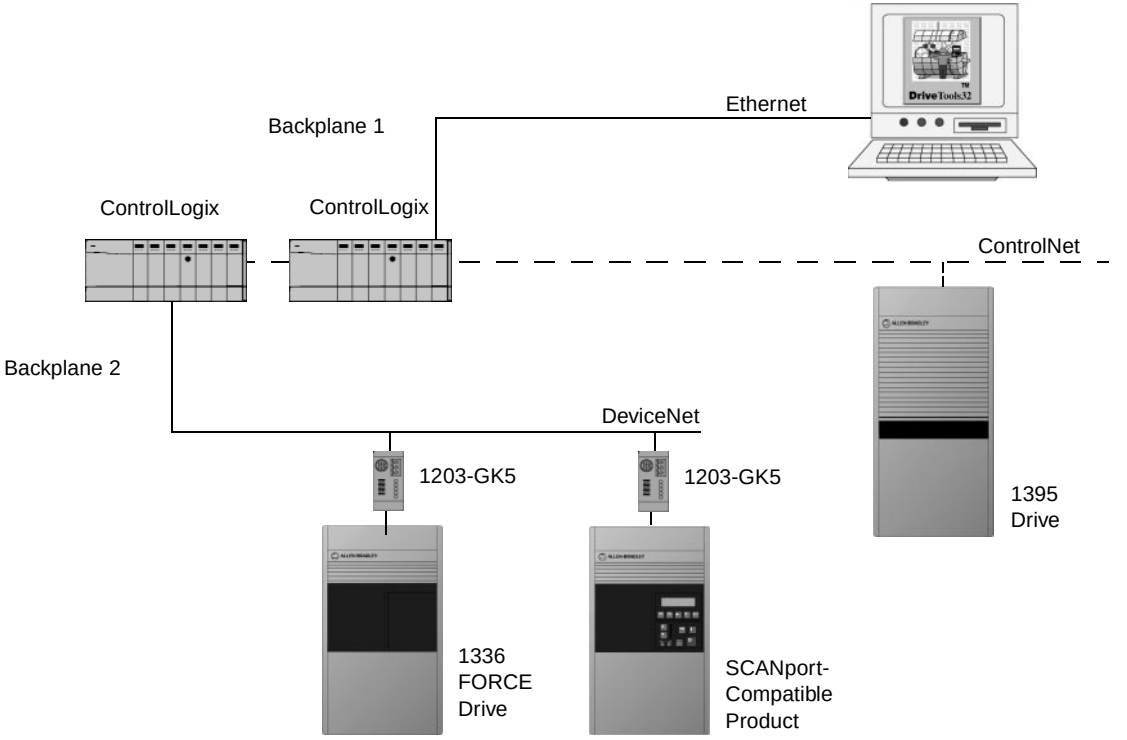
- Ethernet
- ControlNet
- DeviceNet
- Data Highway Plus (DH+)

You can connect between the same types of networks or between different types of networks. For example, you can connect from one ControlNet network to another ControlNet network, or you can connect from an Ethernet network to a ControlNet network. The type of network that you are using limits the possible connections. The following table lists the possible connections that you can make from each type of network:

Network	Possible Connections
ControlNet	ControlNet, DeviceNet, DH+, or a drive
DeviceNet	A drive
DH+	ControlNet, DeviceNet, DH+, or a drive
Ethernet	ControlNet, DeviceNet, or DH+

Figure 13.1 shows an example:

Figure 13.1
ControlLogix Gateway Connection



Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport-Compatible①	②	③
1336 FORCE	②	③
1395	②	③

① For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

② You need the hardware that connects your drive to the network. Refer to the chapter in this manual which describes the network that you are using.

② The equipment that is required depends on the communications that you are using. If you are using Ethernet communications, you will need an interface running TCP/IP. If you are using ControlNet, you will need a 1784-KTC, 1784-KTCX, 1784-PCC, or 1770-KFC adapter.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the ControlLogix controller has scanners for the network that you are using and network to which you want to connect.
- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Verify that the settings in your communication module are correct. Refer to its user manual.

Configuring RSLinx

The following instructions describe how to configure RSLinx for ControlLogix gateway communications. If you have questions about RSLinx, refer to its online help.

To use RSLinx with a ControlLogix Gateway communications, you need to:

- Configure the communications driver.
- Create a shortcut to the network to which the drive is connected.
- Map the shortcut to a KTPort Value.

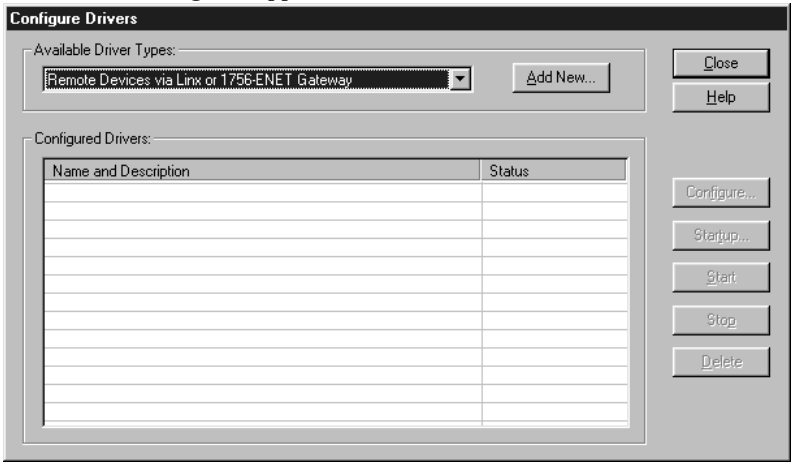
Configuring the Communication Driver

A driver is the software interface to the hardware device that allows RSLinx to communicate with your drive or controller. You must either use an existing driver or configure a new driver for the type of communications system that you are using to connect to the first ControlLogix controller. Refer to the following table:

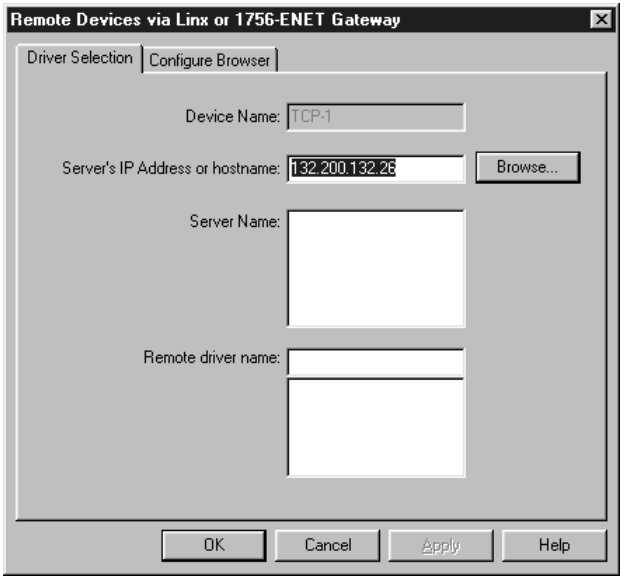
Communications System	Refer to
ControlNet	Chapter 7, *Setting Up ControlNet Direct Communications*
DeviceNet	Chapter 9, *Setting Up DeviceNet Direct Communications*
DH+	Chapter 5, *Setting Up DH+ Direct Communications*
Ethernet	This chapter

These instructions show how to set up a driver for an Ethernet connection.

1. Start RSLinx.
2. In the **Communications** menu, select **Configure Drivers**. The Configure Drivers dialog box appears.

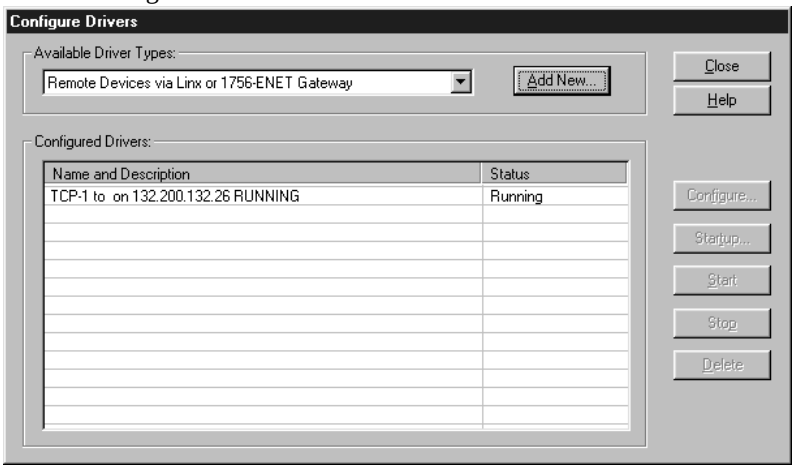


3. In the **Available Driver Types** field, select **Remote Device via Linx or 1756-ENET Gateway**.
4. Click **Add New**. The Add New RSLinx Drive dialog box appears.
5. Type a name (if desired), and then click **OK**. The Remote Devices via Linx or 1756-ENET Gateway dialog box appears.



6. In the **Server's IP Address or hostname** field, type the IP address for the Ethernet module in the ControlLogix controller.

7. Click **OK**. The Configure Drivers dialog box reappears, and the new driver is running.

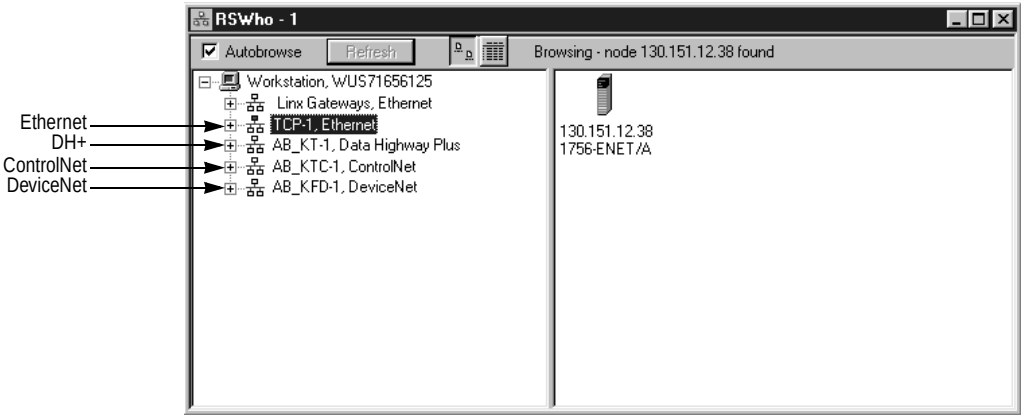


8. Click **Close** to close the dialog box.

Creating a Shortcut

After you create a communication driver to connect to the ControlLogix controller, you must create a shortcut to the network on which the drive is located.

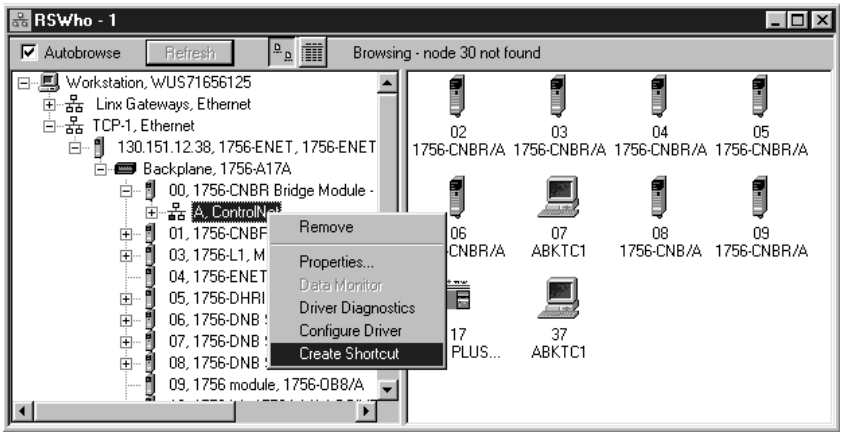
1. In the **Communications** menu, select **RSWho**. The **RSWho** window appears.



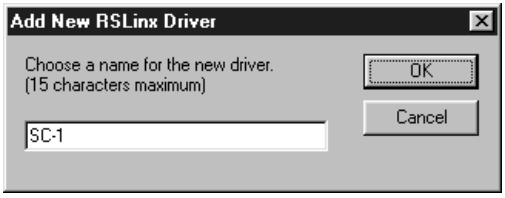
2. Verify that **Autobrowse** is selected in the upper left corner. Its box should be checked.

3. Navigate to the network to which you want to connect.

Important: Count the number of backplanes that you use. A backplane allows you to move from one network to another. If you use more than one backplane, you will need to enter the total number when you configure DriveTools32.

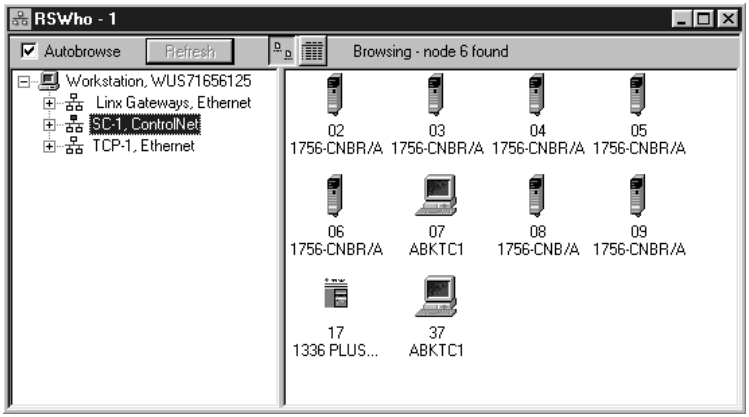


4. Right-click on the network, and select **Create Shortcut**. The **Add New RSLinx Driver** dialog box appears.



5. If desired, type a name in the field.

6. Click **OK**. The shortcut is added in the left pane of the **RSWho** window.

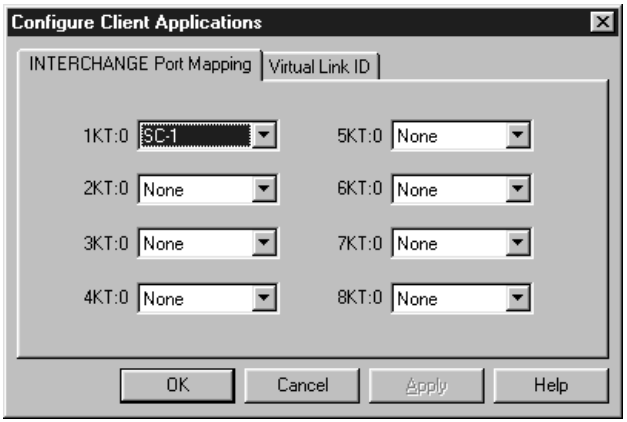


7. Close the **RSWho** window.

Mapping the Configured Driver to the KTPort Value

After configuring the driver, you must map it to a legacy INTERCHANGE API xKT:0 label in RSLinx so that DriveTools32 can use it. To map the configured driver, you need to:

1. In the **Communications** menu, select **Configure Client Applications**. The **Configure Client Applications** dialog box appears.



2. In an unused **KT:0** field, select the shortcut that you created.

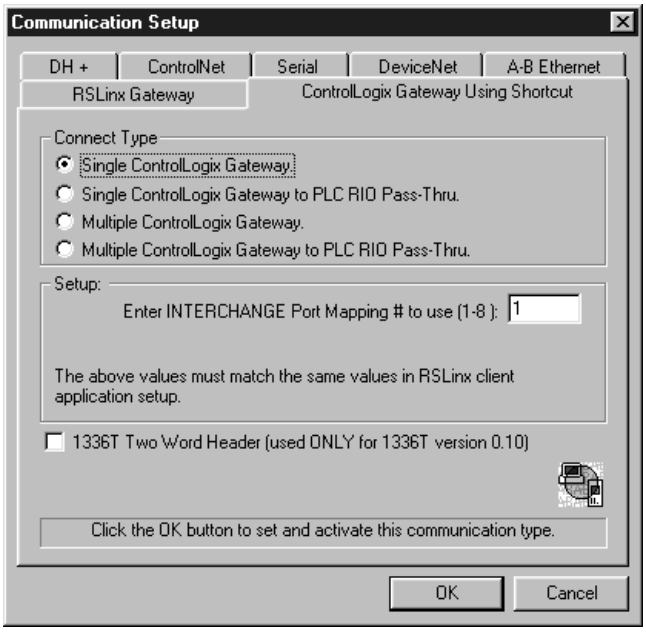
Important: Note the KT:0 field that you select. When you configure a DriveTools32 application, you need to enter the field number in the **Communication Setup** dialog box.

3. Click **OK** to map the driver to the KT:0 value.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application. To do so, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.


Communication Setup
DH +
ControlNet
Serial
DeviceNet
A-B Ethernet
RSLinx Gateway
ControlLogix Gateway Using Shortcut
Connect Type
Single ControlLogix Gateway.
Single ControlLogix Gateway to PLC RIO Pass-Thru.
Multiple ControlLogix Gateway.
Multiple ControlLogix Gateway to PLC RIO Pass-Thru.
Setup:
Enter INTERCHANGE Port Mapping # to use (1-8):
1
The above values must match the same values in RSLinx client application setup.
1336T Two Word Header (used ONLY for 1336T version 0.10)
Click the OK button to set and activate this communication type.
OK
Cancel

3. Click the **ControlLogix Gateway Using Shortcut** tab.
4. Under **Connect Type**, select the connection type according to the number of backplanes that you are using.

Number of Backplanes	Select
One	Single ControLogix Gateway
More than one	Multiple ControlLogix Gateway

Important: Backplanes can be viewed in the RSWho Window when you are creating your shortcut.

5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the shortcut in the RSLinx **Configure Client Applications** dialog box.

Important: To view the KT Port number used by the shortcut, select **Configure Client Applications** in the RSLinx **Communications** menu.

6. If you are connecting via more than one backplane, type the number in the **Enter the total number of the ControlLogix in Shortcut** field. This field appears only if you have selected Multiple ControlLogix Gateway.

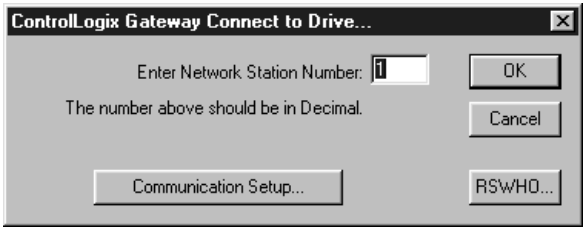
7. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.

8. Click **OK** to save the configuration.

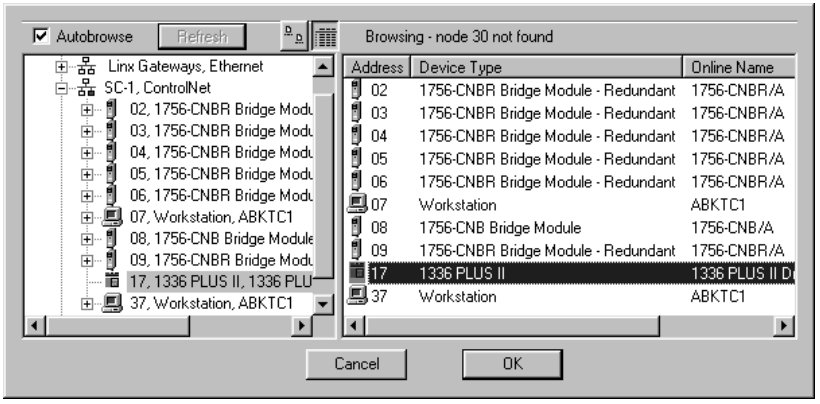
Connecting to the Drive

After configuring RSLinx and the DriveTools32 application, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. A **ControlLogix Gateway Connect to Drive** dialog box appears.



2. Click **RSWHO**. The **RSWHO** dialog box appears.


Autobrowse
Refresh
Browsing - node 30 not found
Linx Gateways, Ethernet
SC-1, ControlNet
02, 1756-CNBR Bridge Modu
03, 1756-CNBR Bridge Modu
04, 1756-CNBR Bridge Modu
05, 1756-CNBR Bridge Modu
06, 1756-CNBR Bridge Modu
07, Workstation, ABKTC1
08, 1756-CNB Bridge Module
09, 1756-CNBR Bridge Modu
17, 1336 PLUS II, 1336 PLU
37, Workstation, ABKTC1
Address
Device Type
Online Name
02 1756-CNBR Bridge Module - Redundant 1756-CNBR/A
03 1756-CNBR Bridge Module - Redundant 1756-CNBR/A
04 1756-CNBR Bridge Module - Redundant 1756-CNBR/A
05 1756-CNBR Bridge Module - Redundant 1756-CNBR/A
06 1756-CNBR Bridge Module - Redundant 1756-CNBR/A
07 Workstation ABKTC1
08 1756-CNB Bridge Module 1756-CNB/A
09 1756-CNBR Bridge Module - Redundant 1756-CNBR/A
17 1336 PLUS II 1336 PLUS II D
37 Workstation ABKTC1
Cancel
OK

3. Double-click the station to which you want to connect.

The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Notes:

Using ControlLogix Gateway to RIO Block Transfer Pass Thru Communications

Chapter Objectives

Chapter 14 provides instructions for using DriveTools32 with ControlLogix gateway to RIO block transfer pass thru communications on a PLC or SLC controller. In this chapter, you will read about the following:

- Required equipment and settings.
- Configuring RSLinx for ControlLogix gateway to RIO block transfer pass thru communications.
- Configuring a DriveTools32 application for ControlLogix gateway to block transfer pass thru communications.
- Connecting to a drive.

About ControlLogix Gateways To RIO Block Transfer Pass Thru Communications

With ControlLogix gateway to RIO block transfer pass thru communications, you use a ControlLogix controller as a bridge to a network with a controller (PLC or SLC). You then access a drive connected to the PLC or SLC controller via a Remote I/O network using block transfers. (You cannot access a drive connected to a ControlLogix controller via a Remote I/O network.)

When you use RIO Block Transfer Pass Thru communications, note:

- You cannot use DriveBlockEditor32 and the control features in DrivePanel32.
- You cannot use DriveMonitor32 to monitor parameters and data in a drive on an RIO network; however, you can use it to monitor parameters and data in the controller.
- You may observe that communications are slow. RIO Block Transfer Pass Thru communications to drives can take 2 seconds per point.

The networks to which you can connect depend on the scanners connected to the ControlLogix controller. ControlLogix controllers may have scanners for:

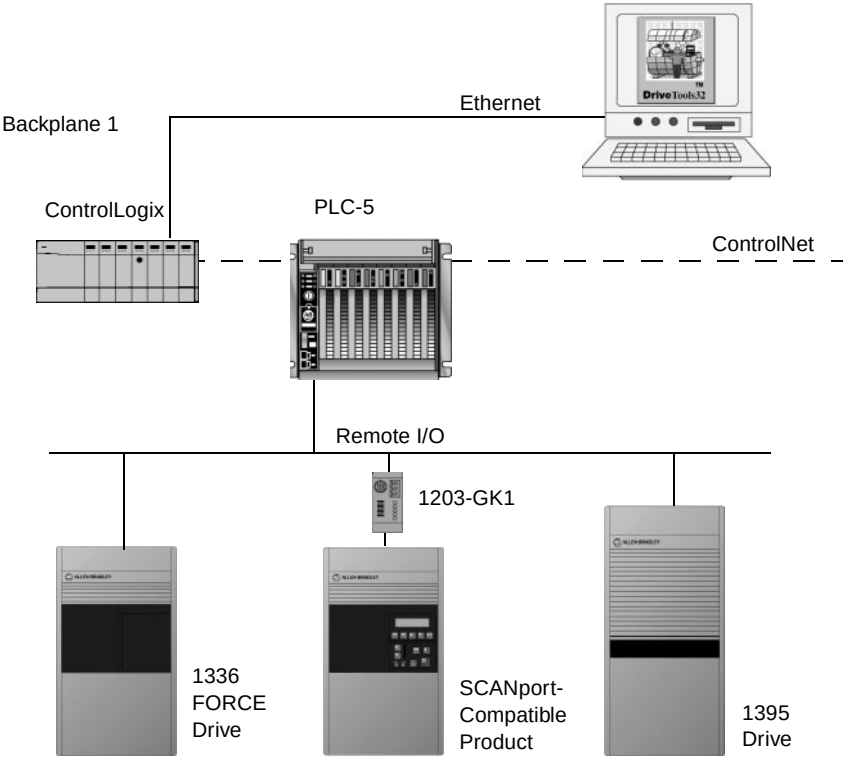
- Ethernet
- ControlNet
- Data Highway Plus (DH+)

You can connect between the same types of networks or between different types of networks. For example, you can connect from one ControlNet network to another ControlNet network, or you can connect from an Ethernet network to a ControlNet network. The type of network that you are using limits the possible connections. The following table lists the possible connections that you can make from each type of network:

Network	Possible Connections
ControlNet	ControlNet, DeviceNet, DH+, or a drive
DH+	ControlNet, DeviceNet, DH+, or a drive
Ethernet	ControlNet, DeviceNet, or DH+

Figure 14.1 shows an example:

Figure 14.1
ControlLogix Gateway to RIO Block Transfer Pass Thru Connection



Hardware

Required Hardware

The hardware required for this type of communications depends on the drive type. Refer to the following table:

Drive	Required Drive Hardware	Required Computer Hardware
SCANport-Compatible①	Remote I/O adapter (1203-GD1, 1203-GK1, or 1336-GM1) and appropriate cable(s)	②
1336 FORCE	PLC Communications Adapter Board (1336T-GT1EN)	②
1395	Node Adapter (1395-KP50) or Multi-Communications Adapter (1395-KP51)	②

① For a list of SCANport-compatible products, refer to Appendix A, *Products Supported by DriveTools32*.

② The equipment that is required depends on the communications that you are using. If you are using Ethernet communications, you will need an interface running TCP/IP. If you are using ControlNet, you will need a 1784-KTC, 1784-KTCX, 1784-PCC, or 1770-KFC adapter.

Setting Up the Hardware

To use DriveTools32 with this type of communications, you must:

- Ensure that the ControlLogix controller has scanners for the network that you are using and network to which you want to connect.
- Ensure that the drive and adapter are properly installed and powered.
- Ensure that cables are securely connected and protected from damage.
- Ensure that block transfer is enabled in your adapter. If you are using a 1203-Gx1 or 1336-GM1 module, switch 1 on SW3 must be ON.

Important: Ensure that the ladder logic program and controller configuration reflect the image table with Block Transfer enabled.

- Verify that the settings in your communication module are correct. Refer to its user manual.
- Ensure that the controller connected to the drive is not using any Block Transfer instructions addressed to the drive in its ladder logic program.
- Ensure that the controller connected to the drive is in RUN mode. If it is not in RUN mode, pass thru messages cannot be delivered to the connected drive product.

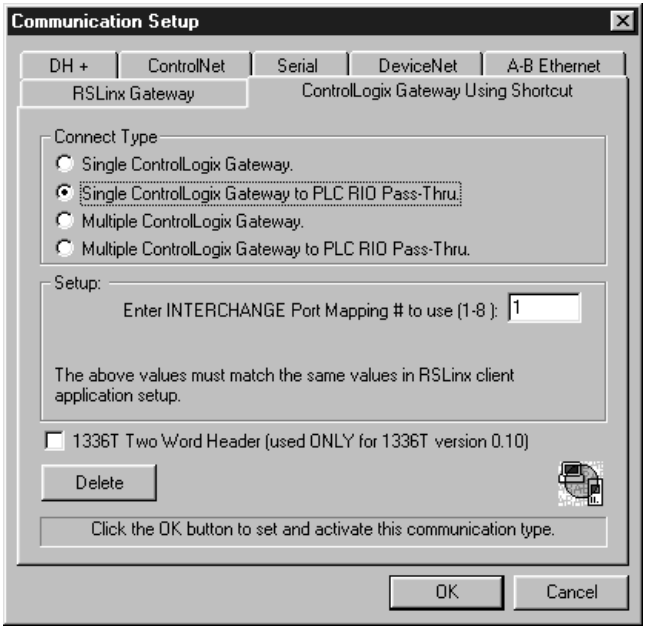
Configuring RSLinx

For ControlLogix to RIO Block Transfer Pass Thru communications, you must configure RSLinx for ControlLogix communications. Refer to the "Configuring RSLinx" section in Chapter 13, *Using ControlLogix Gateways*, for instructions on configuring RSLinx.

Setting Up Communications in a DriveTools32 Application

Before a DriveTools32 application can communicate with a drive, you must configure the application. To do so, you need to:

1. Start the DriveTools32 application.
2. In the **Options** menu, select **Communication Setup**. The **Communication Setup** dialog box appears.



3. Click the **ControlLogix Gateway Using Shortcut** tab.
4. Under **Connect Type**, select the connection type according to the number of backplanes that you are using.

Number of Backplanes	Select
One	Single ControlLogix Gateway to PLC RIO Pass-Thru
More than one	Multiple ControlLogix Gateway to PLC RIO Pass-Thru

Important: Backplanes can be viewed in the RSWho Window when you are creating your shortcut.

5. In the **Enter INTERCHANGE Port Mapping #** field, type the number of the KT:0 port used by the driver in the RSLinx **Configure Client Applications** dialog box.

Important: To view the KT Port number used by the shortcut, select **Configure Client Applications** in the RSLinx **Communications** menu.

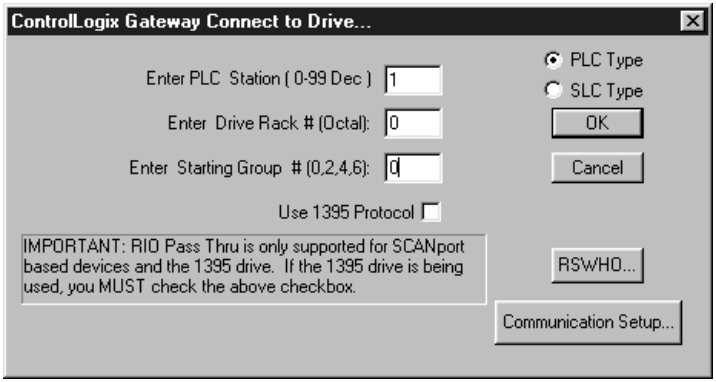
6. If you are connecting via more than one backplane, type the number in the **Enter the total number of the ControlLogix in Shortcut** field. This field appears only if you have selected Multiple ControlLogix Gateway.

7. If you are using a 1336 FORCE and its drive firmware version is 0.10, select **1336T Two Word Header (used ONLY for 1336T version 0.10)**.
8. Click **OK** to save the configuration. A DriveTools32 message appears.
9. Read the message, and then click **OK**.

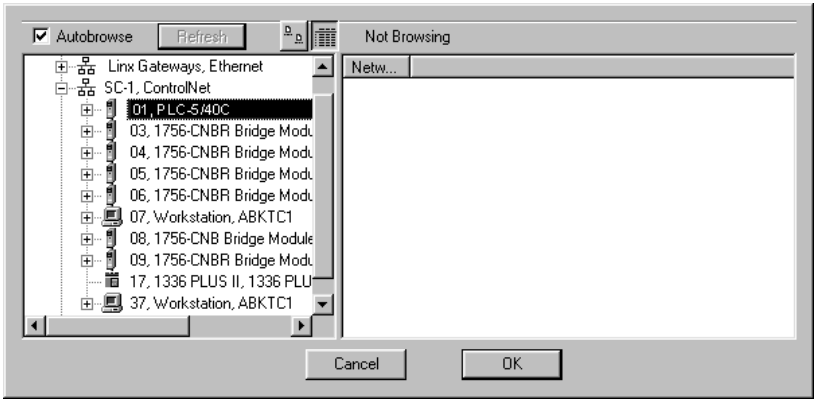
Connecting to the Drive

After configuring RSLinx and the DriveTools32 application, you are ready to connect to a drive.

1. In the **Drive** menu, select **Connect to Drive**. The **ControlLogix Gateway Connect to Drive** dialog box appears.


ControlLogix Gateway Connect to Drive...
Enter PLC Station (0-99 Dec)
1
Enter Drive Rack # (Octal):
0
Enter Starting Group # (0,2,4,6):
0
Use 1395 Protocol
IMPORTANT: RIO Pass Thru is only supported for SCANport based devices and the 1395 drive. If the 1395 drive is being used, you MUST check the above checkbox.
PLC Type
SLC Type
OK
Cancel
RSWHO...
Communication Setup...

2. Click **RSWHO**. The **RSWHO** dialog box appears.



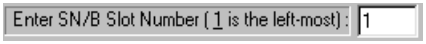
3. Double-click the controller (PLC or SLC) that has the drive connected to its RIO channel. (Note that the controller, not the drive on RIO, is displayed in the RSWHO dialog box.) The **ControlLogix Gateway Connect to Drive** dialog box reappears.

4. In the **Enter Drive Rack #** field, type the RIO rack number of the drive. The rack number is specified in octal and is set in the communications module.

5. In the **Enter Starting Group #** field, type the RIO starting group number of the drive. The RIO starting group number is set in the communications module. Valid numbers are 0, 2, 4, and 6.

6. Select **PLC Type** or **SLC Type**.

7. If you are using an SLC, type the slot number of the RIO scanner in the **Enter SN/B Slot Number** field. This field appears only if you have selected SLC Type.



8. If you are using a 1395 drive, select **Use 1395 Protocol**.

9. Click **OK**.The DriveTools32 application is now communicating with the drive. If you are prompted to create a new database, click **Yes**.

Important: If a prompt appears to alert you that the application failed to communicate with the drive, refer to Chapter 16, *Troubleshooting*.

Using Online Help

Chapter Objectives

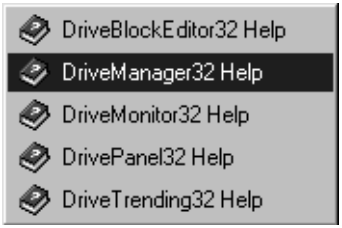
Chapter 15 provides instructions on how to use the DriveTools32 online help. The online help provides information and step-by-step instructions about DriveTools32 applications. In this chapter, you will read about the following:

- Accessing online help.
- Finding information in online help.
- Accessing context-sensitive help.

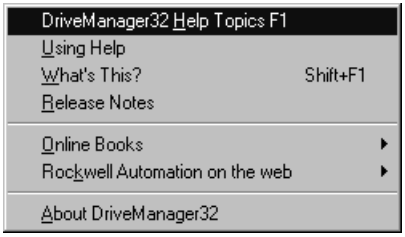
Accessing Online Help

Online help provides information and instructions that will help you use a DriveTools32 application. Each DriveTools32 application has its own online help. You can access online help for any of the DriveTools32 applications using one of the following methods:

- On the Windows task bar, click **Start**, **Programs**, **DriveTools32**, **Help Files**, and then the help file for the desired application.



- In a DriveTools32 application, click **Help** and then the **DriveTools32 Help Topics**.



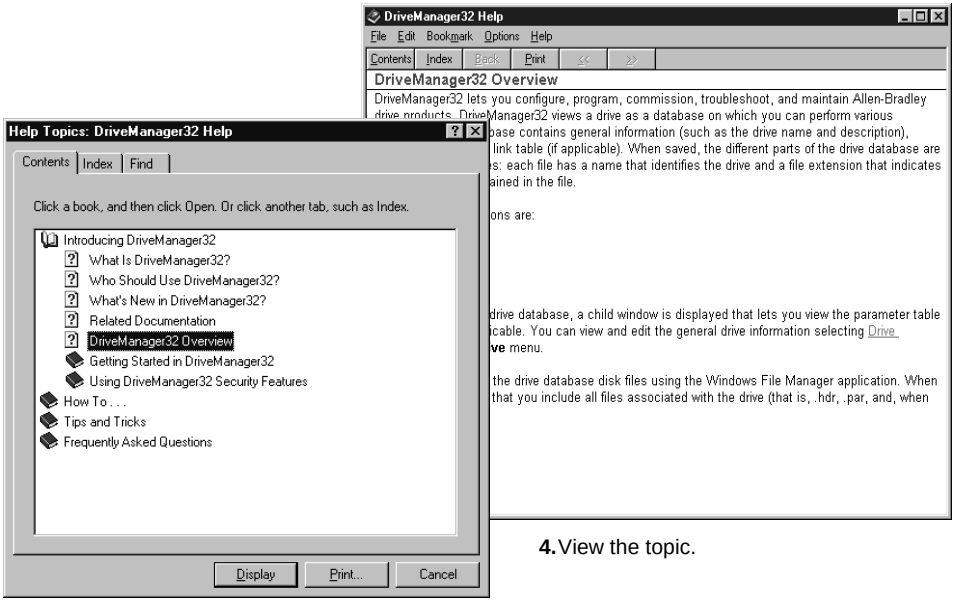
Finding Information in Online Help

Each help file provides the following three ways to locate the information that you need:

- Table of contents.
- Index.
- Search.

Table of Contents

If you are new to an application, you can access information through the contents tab.

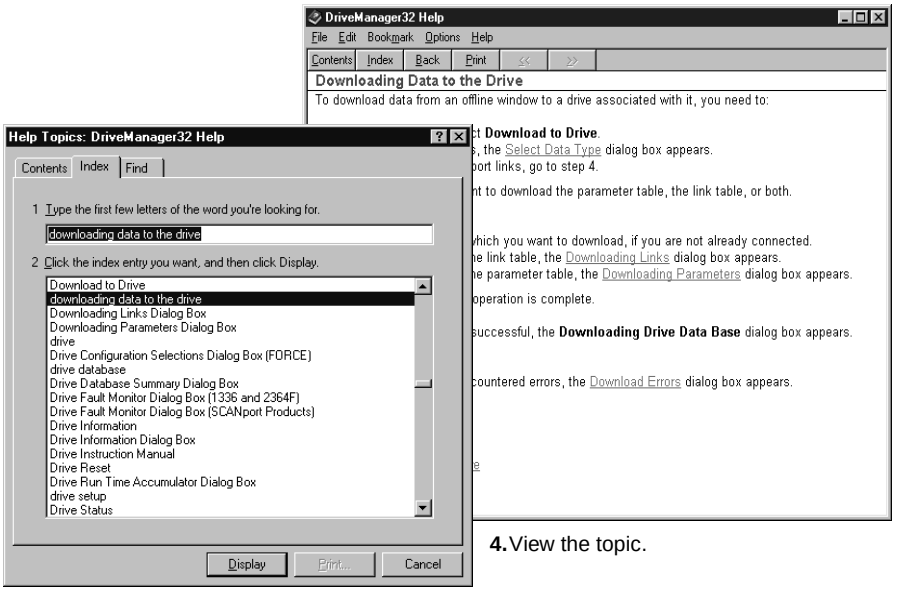


1. Click the **Contents** tab.
2. Double-click a book to open it.
3. Double-click a topic.
4. View the topic.

Index

If you are looking for specific information, use the index.

1. Click the **Index** tab.
2. Type the topic for which you are looking.
3. Double-click the topic.

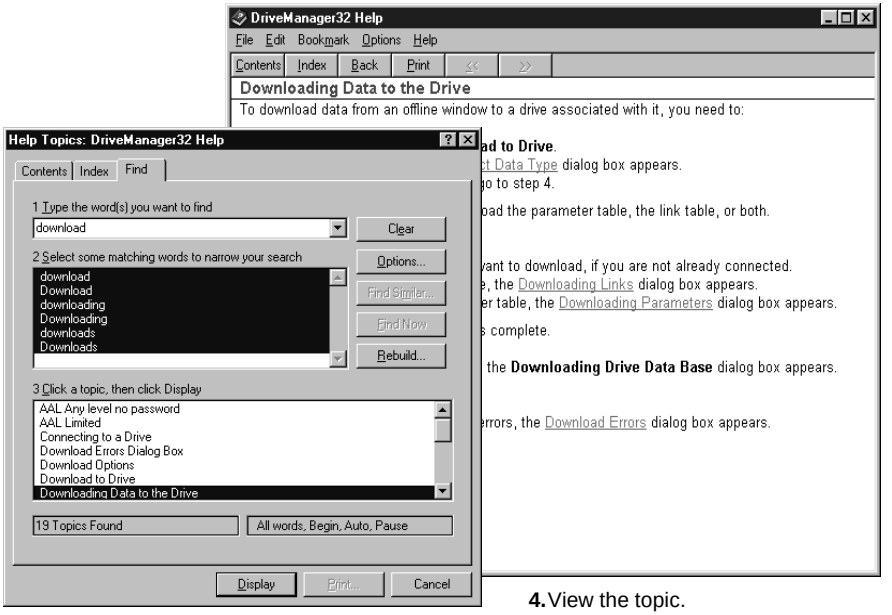

DriveManager32 Help
File Edit Bookmark Options Help
Contents Index Back Print
Downloading Data to the Drive
To download data from an offline window to a drive associated with it, you need to:
Help Topics: DriveManager32 Help
Contents Index Find
1 Type the first few letters of the word you're looking for.
downloading data to the drive
2 Click the index entry you want, and then click Display.
Download to Drive
downloading data to the drive
Downloading Links Dialog Box
Downloading Parameters Dialog Box
drive
Drive Configuration Selections Dialog Box (FORCE)
drive database
Drive Database Summary Dialog Box
Drive Fault Monitor Dialog Box (1336 and 2364F)
Drive Fault Monitor Dialog Box (SCANport Products)
Drive Information
Drive Information Dialog Box
Drive Instruction Manual
Drive Reset
Drive Run Time Accumulator Dialog Box
drive setup
Drive Status
Display Print... Cancel

4. View the topic.

Search

If you are looking for a specific word, use the search.

1. Click the **Find** tab.
2. Type what you are looking for.
3. Double-click the topic you want to view.

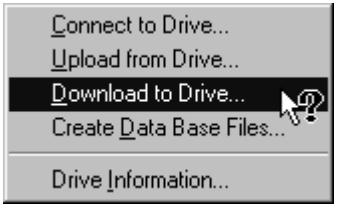


4. View the topic.

Accessing Context-Sensitive Help

DriveTools32 applications provide context-sensitive help on menu options and dialog boxes. When you need information on one of these features, access the context-sensitive help by following these directions:

- Highlight a menu option or click a dialog box. Then press the **F1** key.
- In the **Help** menu, select **What's This?**. Then click on a menu option.



Troubleshooting

Chapter Objectives

Chapter 16 provides instructions for troubleshooting communications problems. In this chapter, you will read about the following:

- Communications messages in DriveTools32 applications.
- Troubleshooting procedures.

Communications Messages

When a DriveTools32 application is not able to establish communications with a drive, it displays a message. The following table lists the communications messages that may appear and the actions to take to establish communications. Messages are in alphabetical order.

Message	Action
Baud rate selected for the communications port is not valid. Select a baud rate that is supported by your computer and configured in RSLinx and the DriveTools32 application.	**Important:** Your computer must support the baud rate that you specify when you configure RSLinx and the DriveTools32 application. **1.** In RSLinx, verify that the correct baud rate is used in the **Configure Device** dialog box. **2.** Restart the DriveTools32 application, and then verify that the correct baud rate is used in the **Communication Setup** dialog box and, if necessary, the **Connect to Drive** dialog box.
Communications port is configured to use both DF1 and 1395 serial communications. You can use only one of these at a time. If you have communications problems, disable the DF1 driver in RSLinx or switch to a different communications port.	• If you are using 1395 serial communications after connecting to a SCANport-compatible product, disable the DF1 driver in RSLinx. Delete the DF1 driver in DriveTools32 by clicking **Delete** in the **Communication Setup** dialog box, and then restart the application. • If you are using a DF1 driver after connecting to a 1395 drive, delete the 1395 serial driver by clicking **Delete** in the **Communication Setup** dialog box, and then restart the application. • If you are using both 1395 serial communications and serial communications to a SCANport-compatible product, use one port for the DF1 driver and a different port for the 1395 serial communications. Ensure that you specify the correct port when configuring RSLinx and the DriveTools32 application.

Message	Action
Communications port is not supported. Verify that you entered the correct communications port number while configuring RSLinx and the DriveTools32 application.	**Important:** Your computer must support the port that you specify when you configure RSLinx and the DriveTools32 application. **1.** In RSLinx, verify that the correct port number is used in the **Configure Allen-Bradley DF1 Communications Device** dialog box. **2.** In DriveTools32, verify that the correct port number is used in the **Communication Setup** dialog box and, if necessary, the **Connect to Drive** dialog box. **3.** Ensure that the communication port that you intend to use is not being used by another application.
Device at this network address on this network is not a drive. Enter the network address of a drive.	**1.** In the DriveTools32 application **Drive** menu, select **Connect to Drive**. **2.** Click the **WHO** button or the **RSWHO** button. **3.** Double-click the drive to which you intend to connect. **Important:** The device that you select must be a 1336 FORCE, 1395, 160, A-B Stromberg, or SCANport-Compatible drive.
Group number is not a valid value. Enter a valid value for the Group.	**1.** In the **Drive** menu, select **Connect to Drive**. **2.** In the **Enter Starting Group #** field, type a valid group number. Valid group numbers are 0, 2, 4, and 6. If necessary refer to the manual for your RIO adapter to find this value. **3.** Click **OK**.
Initializing the driver and KT ports failed. Verify that you configured and mapped the driver correctly. Refer to the *DriveTools32 Getting Started Manual*.	**1.** Verify that RSLinx is configured for the type of communications that you intend to use and that the driver is mapped to a KTPort in the Client Application dialog box. **2.** Restart the DriveTools32 application, and verify that it is configured with the same information. **Important:** Refer to the chapter in this manual that provides instructions for setting up the type of communications that you intend to use.
Initializing the Ethernet connection failed. Reconfigure RSLinx and the DriveTools32 application. Refer to the *DriveTools32 Getting Started Manual*.	• Reconfigure RSLinx and the DriveTools32 application, making sure that a valid IP address is used. Then, restart the DriveTools32 application. Refer to Chapter 10, *Setting Up Allen-Bradley Ethernet to RIO Block Transfer Pass Thru Communications*, for more information.
Invalid operation. Select a supported communications type: DH+, ControlNet, DeviceNet, DF1, Gateway, Ethernet, or Serial connection for 1395.	**1.** Restart the DriveTools32 application. **2.** Configure the DriveTools32 application for the desired communications port. **3.** Connect to the drive.
Invalid operation. Save all your work and check the network, station and configuration. Then restart RSLinx and the DriveTools32 application.	**1.** Verify that the drive is powered and cables are securely connected to it. **2.** Verify that your network is working properly. **3.** Verify that RSLinx is configured correctly. **4.** Restart the DriveTools32 application and verify that it is configured correctly.
Invalid operation 2. Verify that the device and network are still active, and then restart the DriveTools32 application.	**1.** Verify that the drive is powered and cables are securely connected to it. **2.** Verify that the network is active.

Message	Action
Invalid operation 3. Verify that you are connected to the device and the RSLinx and the DriveTools32 application are properly configured.	**1.** Verify that the drive is powered and cables are securely connected to it. **2.** Verify that RSLinx is configured correctly. **3.** Restart the DriveTools32 application and verify that you configured it correctly.
IP Address is no longer valid. Verify that RSLinx is running, drivers are correctly configured, and the PLC is still active on the network.	**1.** Verify that the needed Ethernet driver is still running in RSLinx. **2.** Verify that the IP address used in RSLinx and the DriveTools32 application is correct. **3.** Verify that the device with this IP address is connected to the network and powered.
IP address is not a valid address. Verify that you entered the correct IP address in the **Communication Setup** dialog box.	**1.** Verify that you entered the correct IP address in the RSLinx **Configure driver for Ethernet** dialog box. **2.** Restart the DriveTools32 application. **3.** Verify that you entered the same IP address in the DriveTools32 application **Communication Setup** dialog box. **4.** Connect to the drive. **Important:** If the IP address is used by two different nodes, you will have to use a new IP address. Contact your network administrator.
IP address is not valid. Verify that you entered the correct IP address in RSLinx and the DriveTools32 application and that the PLC has been correctly set up.	**1.** Verify that the correct IP address is entered in the RSLinx **Configure driver for Ethernet** dialog box. **2.** Restart the DriveTools32 application. **3.** Verify that the same IP address is entered in the DriveTools32 application **Communication Setup** dialog box. **4.** Verify that the IP address is correctly set up in the PLC to which you intend to connect. Refer to the PLC user manual. **Important:** If the IP address is used by two different nodes, you will have to use a new IP address. Contact your network administrator.
IP address that you have entered is used by another DriveTools32 application. If you want to use the same address, click **OK**. Otherwise, click **Cancel**.	• DriveMonitor32 and another application are attempting to use the same IP address to communicate with a PLC and a drive connected to the PLC via RIO communications. This will cause slower communications. To do so, click **OK**. **OR** • If you do not want slower communications, click **Cancel**, and then configure a new driver in RSLinx for the second application.
KT card that is used is not valid. Configure and map a driver in RSLinx. Refer to the *DriveTools32 Getting Started Manual*.	**1.** Configure RSLinx for the type of communications that you intend to use. Refer to the chapter in this manual that provides instructions for setting up the type of communications that you intend to use. **2.** Restart the DriveTools32 application. **3.** Configure the DriveTools32 application. **4.** Connect to the drive.
KT port has already been used. Select a new KT port for this connection.	**1.** In the DriveTools32 application **Options** menu, select **Communication Setup**. **2.** In the **Enter mapping KT(X) Port # to use** field, enter a new, valid KT(X) port number. **3.** Click **OK**. **4.** Connect to the drive.

Message	Action
Network address on this network is not valid. Enter an address for a node that is on the network.	**1.** In the DriveTools32 application **Drive** menu, select **Connect to Drive**. **2.** Click the **WHO** button or the **RSWHO** button. **3.** Double-click the drive to which you intend to connect.
Only DH+ communications are currently available. To use a different type of communications, configure and map a driver in RSLinx. Refer to the *DriveTools32 Getting Started Manual*.	**1.** Configure RSLinx for the type of communications that you intend to use. Refer to the chapter in this manual that provides instructions for setting up the type of communications that you intend to use. **2.** Restart the DriveTools32 application. **3.** Configure the DriveTools32 application. **4.** Connect to the drive.
Rack number is not a valid value. Enter a valid value for the Rack.	**1.** In the **Drive** menu, select **Connect to Drive**. **2.** In the **Enter Drive Rack #** field, type a valid rack number. If necessary refer to the manual for your RIO communications module to find this value. **3.** Click **OK**.
SN number is not a valid value. Enter a valid value for the SN.	**1.** In the **Drive** menu, select **Connect to Drive**. **2.** In the **Enter SN/B Slot Number** field, type the slot number that your SLC scanner is using. **3.** Click **OK**.
There are not enough network ID numbers to assign to this IP address. You must delete an existing node before adding this one.	**1.** Save your work, and then close the application. **2.** Remove a node from the network. **3.** Restart the DriveTools32 application.
There is not a station at the network address on this network. Check the network, the address, and the station.	**1.** Verify that the network is working. **2.** Verify that the drive or PLC to which you intend to connect is an active node on the network. **3.** In the DriveTools32 application **Drive** menu, select **Connect to Drive**. **4.** Click the **WHO** button or the **RSWHO** button. **5.** Double-click the drive or PLC to which you intend to connect.

Troubleshooting Procedures

When you have trouble connecting to a drive, you should verify the following are correctly set up and configured:

Check	Refer to:
Hardware Setup	“Verifying the Hardware Setup” on page 16 - 5
RSLinx configuration	“Verifying the RSLinx Configuration” on page 16 - 5
DriveTools32 application configuration	“Verifying the DriveTools32 Application Configuration” on page 16 - 6
Connect to Drive configuration	“Verifying the Connect to Drive Configuration” on page 16 - 6

Verifying the Hardware Setup

To verify the hardware setup, you need to:

- Verify that you are using the required hardware for the drive and communications system that you are using. Refer to the appropriate chapter in this manual.
- Verify that the communications module is correctly configured. If necessary, refer to the manual for the communications module.
- Verify that the communications module is set as instructed for the type of communications that you are using. Refer to the appropriate chapter in this manual.
- Verify that the communications module has the firmware required for DriveTools32.

Verifying the RSLinx Configuration

To verify that RSLinx is correctly configured, you need to see if the driver is running. Follow these instructions:

1. Start RSLinx.
2. In the **Communications** menu, select **Configure Drivers**. The **Configure Drivers** dialog box appears.
3. View the box under Configured Drivers:

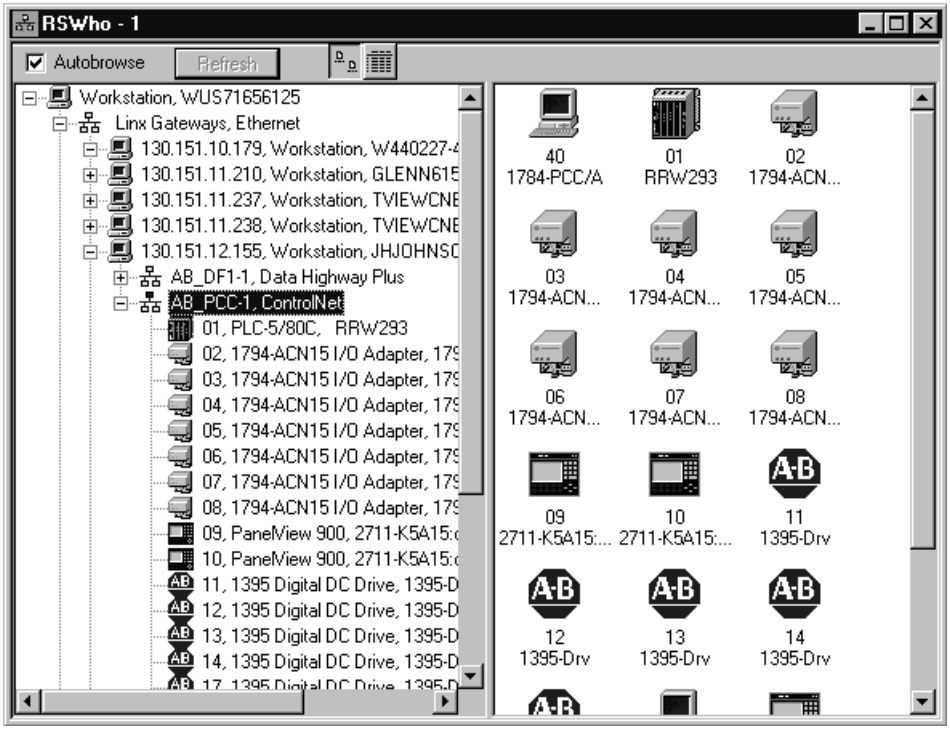
If	Then
"Running" appears after a driver	The driver is correctly configured.
"Stopped" appears after the driver	You must reconfigure the driver. Double-click the driver to access its configuration.
No driver appears	A driver needs to be configured. Determine the type of communications that you intend to use, and then refer to the appropriate chapter in this manual.

4. Close the **Configure Drivers** dialog box.

In RSLinx, you can also verify that the driver that you configured will let you connect to the desired drive or controller. Follow these instructions.

1. Start RSLinx.
2. In the **Communications** menu, select **RSWho**.
3. Ensure that a check mark appears next to **Autobrowse**.

4. Double-click the driver that you want to view. Connected devices appear in the right pane.



5. Close the **RSWho** window.

Verifying the DriveTools32 Application Configuration

To verify that the DriveTools32 application is correctly configured, refer to the procedures in the chapter for your communications system.

Important: After changing a configuration in RSLinx, you must restart the DriveTools32 application.

Important: If you are using an RIO communications system and running DriveManager32 on a Windows 95 operating system, the save prompt that appears when you close an online window is sometimes placed behind the DriveManager32 window, so the DriveManager32 screen appears to be locked. Press the **Alt** key to bring this prompt to the front and continue using DriveManager32.

Verifying the Connect to Drive Configuration

To verify that the DriveTools32 application is correctly configured, refer to the procedures in the chapter for your communications system.

Products Supported by DriveTools32

Appendix Objectives

Appendix A lists the bulletin numbers of SCANport-compatible products, their product names, and the directories in which DriveTools32 saves their databases.

Supported SCANport-Compatible Products

The following table lists SCANport-compatible products:

Bulletin Number	Product	Directory[1]
1305	1305 AC Drive	D_1305N
1336E	1336 IMPACT™ AC Drive	D_1336E
1336S	1336 PLUS AC Drive (Fractional)	D_1336F
1336S	1336 PLUS AC Drive (B-frame or above)	D_1336HP
1336T	1336 FORCE AC Drive with a Standard Adapter Board	D_1336TS
1336GT1EN	1336 FORCE with a PLC Communications Adapter Board	D_1336TP
1336T-GT3EN	1336 FORCE with a ControlNet Communications Adapter Board	D_1336TC
1397	1397 DC Drive	D_1397
1557	1557 Medium Voltage AC Drive	D_1557
2364F	2364F RGU DC Bus Regen Front End	D_2364F
1336F	1336 PLUS II	D_07
1336Z	1336 SPIDER	D_07
1336R	1336 REGEN Line Regeneration Package	D_193
150	SMC Dialog Plus™	D_150
193	SMP-3	D_193

[1] During the installation, DriveTools32 loads these directories in the following location: C:\Program Files\Rockwell Automation\DriveTools32\Program.

Important: DriveTools32 can support more SCANport-compatible products than are listed in the above table by creating database files for them. For more information on creating databases, refer to the “DriveTools32 and Database Files” section in Chapter 2, *Installing and Starting DriveTools32*.

Other Supported Drives

The following table lists drives commonly used with DriveTools32. These drives are not accessed via SCANport.

Bulletin Number	Product	Directory[1]
160	160 Drive with 160-RS1 Adapter	D_1A
1395	1395 DC Drive	D_1395
1352s	A-B/Stromberg Standard Drive	D_1352s
1352v	A-B/Stromberg AC Vector Drive	D_1352v
3400	A-B/Stromberg Digital DC Drive	D_3400
3502	A-B/Stromberg LGU Drive	D_3502

[1] During the installation, DriveTools32 loads these directories in the following location: C:\Program Files\Rockwell Automation\DriveTools32\Program.

Tool Connectivity

The following table indicates the products, supported types of communications and tools that work with each. A "Y" indicates the option is supported.

Device	Connection Method	DriveManager32	DriveMonitor32	DrivePanel32	DriveTrending32	DriveBlockEditor32
160 SSC	RS-232 Point-to-Point Serial	Y		Y		
	Modem	Y		Y		
SCANport-Compatible Products 1305, 1336 FORCE with Standard Adapter Board, 1336 IMPACT, 1336 PLUS, 1336 PLUS II, 1336 REGEN, 1336 SPIDER, 1397, 1557, 2364F RGU, SMC, and SMP	RS-232 Point-to-Point Serial	Y	Y	Y	②	
	RS-232 Multi-Drop using ControlNet or DeviceNet	Y	Y	Y	②	
	RS-232 to DH+ (direct)					
	DH+ to RIO Pass Thru	Y		①	②	
	DH+ (direct)					
	RS-232 to ControlNet Direct	Y	Y	Y	②	
	ControlNet (direct)	Y	Y	Y	②	
	RS-232 to ControlNet to RIO Pass Thru	Y		①	②	
	ControlNet to RIO Pass Thru	Y		①	②	
	RS-232 to DeviceNet Direct	Y	Y	Y	②	
	DeviceNet (direct)	Y	Y	Y	②	
	Ethernet to RIO Pass Thru	Y		①	②	
	RSLinx Gateway Server:					
	- Ethernet to DH+ (direct)					
	- Ethernet to DH+ to RIO Pass Thru	Y		①	②	
	- Ethernet to ControlNet Direct	Y	Y	Y	②	
	- Ethernet to RS-232 Point-to-Point Serial	Y	Y	Y	②	
	Modem	Y	Y	Y	②	
	ControlLogix Gateways	Y	Y		②	
	ControlLogix Gateways to RIO Pass Thru	Y			②	

[1] Program and display only (no control functions)

[2] 1336 FORCE and 2364F RGU only.

[3] Also supports connection methods supported by SCANport-Compatible Products. Refer to page A- 2.

Device	Connection Method	DriveManager32	DriveMonitor32	DrivePanel32	DriveTrending32	DriveBlockEditor32
1336 FORCE with PLC Communications Board③	RS-232 to DH+ (direct)	Y	Y	Y	Y	Y
	DH+ to RIO Pass Thru	Y		①	Y	Y
	DH+ (direct)	Y	Y	Y	Y	Y
	RS-232 to ControlNet to RIO Pass Thru	Y	Y	Y	Y	Y
	ControlNet to RIO Pass Thru	Y		①	Y	Y
	Ethernet to RIO Pass Thru	Y		①	Y	Y
	RSLinx Gateway Server:					
	- Ethernet to DH+ (direct)	Y	Y	Y	Y	Y
	- Ethernet to DH+ to RIO Pass Thru	Y		①	Y	Y
	ControlLogix Gateways	Y	Y		Y	Y
	ControlLogix Gateways to RIO Pass Thru	Y			Y	Y
1336 FORCE with ControlNet Communications Board③	RS-232 to ControlNet Direct	Y	Y	Y	Y	Y
	ControlNet (direct)	Y	Y	Y	Y	Y
	RSLinx Gateway Server: Ethernet to ControlNet Direct	Y	Y	Y	Y	Y
	ControlLogix Gateways	Y	Y		Y	Y
1352, 1352 C, 3400 DC, and 3502 LGU	RS-232 to DH+ (direct)	Y	Y			
	DH+ (direct)	Y	Y			
	RSLinx Gateway Server: Ethernet to DH+ (direct)	Y	Y			
1395 DC with Serial Adapter	RS-232 Point-to-Point Serial with Converter	Y			Y	
	RSLinx Gateway Server: Ethernet to RS-232 Point-to-Point Serial	Y			Y	
1395 DC with Multi-Communications Board	RS-232 to DH+ (direct)	Y	Y		Y	
	DH+ to RIO Pass Thru	Y			Y	
	DH+ (direct)	Y	Y		Y	
	RS-232 to ControlNet to RIO Pass Thru	Y			Y	
	ControlNet to RIO Pass Thru	Y			Y	
	Ethernet to RIO Pass Thru	Y			Y	
	RSLinx Gateway Server:					
	- Ethernet to DH+ (direct)	Y	Y		Y	
	- Ethernet to DH+ to RIO Pass Thru	Y			Y	
	ControlLogix Gateways	Y	Y		Y	
	ControlLogix Gateways to RIO Pass Thru	Y			Y	
1395 DC with ControlNet Adapter Board	RS-232 to ControlNet Direct	Y	Y		Y	
	ControlNet (direct)	Y	Y		Y	
	RSLinx Gateway Server: Ethernet to ControlNet	Y	Y		Y	
	ControlLogix Gateways to ControlNet	Y	Y		Y	
1395 DC with Node Adapter Board	DH+ to RIO Pass Thru	Y			Y	
	RS-232 to ControlNet to RIO Pass Thru	Y			Y	
	ControlNet to RIO Pass Thru	Y			Y	
	Ethernet to RIO Pass Thru	Y			Y	
	RSLinx Gateway Server: Ethernet to DH+ to RIO Pass Thru	Y			Y	
	ControlLogix Gateways to RIO Pass Thru	Y			Y	

① Program and display only (no control functions)

② 1336 FORCE and 2364F RGU only.

③ Also supports connection methods supported by SCANport-Compatible Products. Refer to page A- 2.

Adapter Version Requirements

DriveTools32 requires the following firmware releases for the following adapters:

Adapter	Firmware Release
1203-CN1	1.002 or greater
1203-GK5, 1336-GM5	2.001 or greater
1203-GU6, 1336-GM6	All versions
1203-GD1, 1203-GK1, 1336-GM1	2.07 or greater
1203-GD2, 1203-GK2, 1336-GM2	All versions support DriveManager32, DrivePanel32, and DriveTrending32. DriveMonitor32 requires version 2.04. DriveBlockEditor32 requires version 2.07.
1203-SSS	All versions

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1336 IMPACT Drive, refer to SCANport-compatible products
1336 Line Regeneration Package, refer to SCANport-compatible products
1336 PLUS AC Drive, refer to SCANport-compatible products
1336 PLUS II Drive, refer to SCANport-compatible products
1336 SPIDER Drive, refer to SCANport-compatible products
1395 drives
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1397 DC Drive, refer to SCANport-compatible products
1557 Medium Voltage AC Drive, refer to SCANport-compatible products
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2364F RGU DC Bus Regen Front End, refer to SCANport-compatible products

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